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The International Journal of Orthodontia and Oral Surgery

A Monthly Journal Devoted to the Advancement of the Sciences of Orthodontia, Oral Surgery, and Dental and Oral Radiography

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Orthodontia and Oral Surgery

VOL. VII ST. LOUIS, SEPTEMBER, 1921 NO. 9

ORIGINAL ARTICLES

PRESIDENT'S ADDRESS BEFORE THE PACIFIC COAST SOCIETY OF ORTHODONTISTS*

BY H. L. MOREHOUSE, D.D.S., SPOKANE, WASH.

THIS morning we have assembled for the Eighth Annual Meeting of the Pacific Coast Society of Orthodontists and I am going to ask you to join with me in making this a celebration of the 20th Anniversary of our beloved specialty, orthodontia, as a distinct specialty of dentistry. I think that I am correct in saying that it was the first branch of dentistry to take a definite stand as a specialty. According to records completed by Dr. Weinberger, the work of straightening the teeth as it used to be called, was practiced as far back as 1728, at which time we find an article by Dr. Fauchard on that subject.

I have not the time nor do I wish to bore you with a lot of history for most of you have read Dr. Weinberger's articles on the "History of Orthodontia." I would like, however, to have you bear with me while I hastily take you back over the past twenty years to the time and place where I feel orthodontia as a specialty was given birth. On June 11, 12 and 13, 1901, in the city of St. Louis, Missouri, the first Society of Orthodontists was brought into existence and christened "The Angle Society of Orthodontists." This took place the year after Dr. Edward H. Angle, the father of our specialty, had given his first course of instructions to a small class of nine or ten men, most of whom you will recognize as well-known men in the profession today. "Those present were Drs. Edward H. Angle, President; Milton Watson, Secretary; Frank Gough, Frederick C. Kemple, Lloyd S. Lowrie, T. B. Mercer, Grafton Monroe, Herbert A. Pullen, F. W. Rafter, and Richard Summa."

At the opening meeting, the president, Dr. Angle, made the following address:

*Read before the Pacific Coast Society of Orthodontists, Portland, Oregon, Feb. 16, 17, and 18, 1921.

"This morning marks another epoch in the history of Science, the opening of the first meeting of the Society of Orthodontia, a society organized for the promotion and exaltation of that branch of Dental Science known as Orthodontia, and looking to the early complete recognition of the branch as a distinct specialty, to be taught and practiced as such."

Continuing he stated, "Doubtless it would not be inappropriate for me at this time, to set forth the reasons for the organization of such a society, for unless there be good and valid reasons for its establishment, its course must be marked by an unhealthy and unprofitable existence and probably an early dissolution. On the other hand, if there be good and sufficient reasons for such a society, they should be known and recognized by the lovers of all branches of medical science and the sympathy and assistance of all enlisted, that the greatest degree of benefit may be conferred, not only to the science of orthodontia, but to humanity at large, to whose welfare all laws enacted and all societies organized owe their first duties. Hence, I shall endeavor to set forth some reasons why this organization should be founded and why I believe this meeting marks the beginning of something so grand, so noble, something destined to so elevate dentistry in general and so greatly benefit humanity, that even we who are assembled here this morning dare not yet dream of its importance, though we, as founders, are most interested and our hearts beat highest in enthusiasm, anxiety, and love for this branch of science and the success of this, the first meeting."

The past twenty years has proved that there was a good and sufficient reason for the birth of this specialty. Those of us who were among the pioneers can feel especially proud as well as all of you who are now enjoying this interesting work. I will use Dr. Angle's answer to why orthodontia should be a science and a specialty as the reason for the establishment at that time of orthodontia as a specialty and we should be enthused and stimulated to greater endeavors as we celebrate this 20th anniversary of one of the greatest specialties of medical science.

Dr. Angle states: "It is a great science by itself, with requirements in its study and practice so radically unlike that of the other branches of dentistry that the two can never be profitably combined, either in study or practice. Each seriously handicaps the other and orthodontia naturally suffers most for the reason that it is wholly unlike other operations in dentistry. It is secondary alike in dental colleges, in practice and in dental societies. Hence it is not unlikely to follow that in proportion as a dentist is successful in other operations of dentistry, he will naturally be less successful in those of orthodontia, for in that same proportion he will have less inclination, less time, and less energy to devote to it. Few would think it advisable to combine the practice of rhinology with that of dentistry, and yet we believe the two could be far more easily, profitably and successfully combined than can orthodontia and dentistry proper. The fact is, orthodontia deals almost wholly with different tissues, principles and art problems from those treated in ordinary dentistry and is extremely exacting in its requirements, necessitating peculiar

talent, energy, fitness and devotion to certain lines of study which are the instruments best adapted to the performance of operations in each."

"The ultimate separation of orthodontia from dentistry proper is natural and inevitable and the sooner it is encouraged and becomes firmly established, the better it will be for both and infinitely better for humanity at large. As yet there have only been a few who have had the courage to completely specialize in the practice of orthodontia, but the results of the efforts of even those few has been truly remarkable. Orthodontia has been revolutionized, and we would ask those who may doubt the practicability of this specialization, not to mention the growth of nearly every other branch of science and art accomplished by the same power. Indeed this is the very age of specialization, and was there ever such an age of progress? Wise is he who recognizes the natural and resistless power of specialization, and narrow indeed must he be who is blind to its demands and attempts to resist its might.

"To hope that all this may be brought about at once, or even in several years, would be expecting too much. Great and radical changes must be wrought slowly.

"So we must work patiently and wait and believe that orthodontia, so replete with possibilities for improving the health and happiness of orally deformed humanity and for uplifting the highest phase of art, or that of improving the lines of beauty of the living, divinely patterned human face, will and must be a firmly established and useful specialty of dental science, and if this is inevitable, as I believe it is, then it is fitting and proper that this society should be established, for our best efforts can only yield the best fruit in strong, earnest, sincere, concerted action."

Continuing, Dr. Angle says: "Let me earnestly try to impress upon you that in proportion as we are sincere, broad, liberal, honest, earnest and studious, will our efforts be successful and the prosperity of this science specialty be insured.

"We must keep in mind, notwithstanding the fact that orthodontia has recently made marvelous advancement, almost revolutionizing itself in the past two or three years, that there are yet many points on which much careful painstaking and methodical investigation is needed." How well these words still apply today.

During these twenty years we have seen this science advance step by step under the guiding hand of many earnest, conscientious workers who had its welfare at heart. Mechanical devices have been improved until they are simple but direct in their action. Best of all with the usual foresightedness, our profession has gone beyond the mechanical phase and developed principles by which we can get Nature to not only better assist in the development, but give more assurance of the stability of our finished cases. Among these might be mentioned the work done on the "Training and Strengthening of the Muscles of Mastication and Expression" by Dr. Alfred P. Rogers; "The Physiological Changes in the Bony and Fibrous Tissues of the Jaw" by Frederick Noyes; then for further encouragement we can look back on the programs of this Society since it started and we find the following subjects which

have been given serious consideration on our programs: "Relation of the Physician to the Orthodontist"; "Relation of the Rhinologist to the Orthodontist"; "Nutrition of the Child"; "Arrested Vertical Development"; "Impacted Third Molar Influence in Orthodontia Treatment"; and "The Psychology in Handling Children"; we can feel proud that the prophecy was not in vain.

When we read those words of Dr. Angle's spoken a decade ago, we realize with what wisdom and foresight our specialty was conceived. It is befitting, therefore, in celebrating this anniversary that we do homage to those pioneers who have made so much possible and especially to Dr. Edward H. Angle, the father of orthodontia.

There is one point that I feel that we, as orthodontists, should continue to keep before us for the future good of our chosen work, that of conscientious following up of our cases, not one or two years, but five years. Even that will not be enough if we have not satisfied ourselves that there are not some forces which we have overlooked which might throw out of harmony the beautiful effect that we have accomplished. These forces might be untrained muscles or impacted third molars.

If any of you are in doubt about either, especially the latter, look up some of your cases that have been dismissed from your mind three or four years ago in which these forces have not been reckoned with and see how many of them bring pleasure to your soul in renewing old acquaintances.

I want to urge upon the members of this society, the great necessity of giving real service. In our specialty, the final result is what we are building our reputation on and what our patients are paying for and we must be conscientious that in so far as it lies within our human efforts, the normal should be the goal.

The question of service is becoming the paramount consideration today in all walks of life. The following quotation from President Warren G. Harding will bear me out. Mr. Harding emphasized in a recent speech the need for recognition by all men that if conditions are to be bettered, "Service must be the prime object in every commercial activity and then profit will follow service 'as night the day.' "

In closing I want to wish orthodontia many more decades of usefulness and express my faith that this Society will always be in the front ranks of this advance.

DISCUSSION

Dr. Charles C. Mann.—I would like to felicitate the president on the beautiful address he has presented to us this morning. His reference to Dr. Angle and the work done by him in furthering orthodontia is especially apt, and I think as we grow older in this work our appreciation of Dr. Angle's work for orthodontia, not only in the beginning, but his continued activity, even into his riper years is a thing we will appreciate more and more each day. I personally feel that the science of orthodontia has and is opening broader and greater fields, presenting more opportunities for real service, real work, than it has in the years gone by, and I think that your remarks, Mr. President, encouraging real, honest, conscientious service should be taken by the members of this Society at their full value.

Dr. Allen E. Scott, San Francisco, Calif.—I wish to express my very deep appreciation for this address, and say that I have enjoyed it very much. I have been a great admirer of Dr. Angle ever since I took up this work, and I think we owe a great deal of what we have today to his efforts. One of the greatest things with which I have been impressed as the outgrowth of his work is the great enthusiasm and great encouragement he gave his disciples, we might say—those who trained under him for this work. Some of the principles which Dr. Angle advocated may have since been proved wrong, but the fact remains, he was the great pioneer in this work, and to him we owe very much of what we have found out since his activity commenced. As to the practice of this work as a specialty, I want to agree with the president heartily, and sincerely, as I think the man who tries to do orthodontics with general dentistry soon gets into serious trouble. A great many times, students at the University of California ask about taking up orthodontia as a specialty. They say we will do it two days a week, and general dentistry the remainder of the week. But the dentist soon finds out the orthodontic appliances break, and require immediate attention. His dental patients come in on the days he is devoting to the special work and it breaks into this work in that way. Likewise, the orthodontia patients come in on the days devoted to his general practice, and it is hard to concentrate on either one. So, it is usually my advice to students to take a good course with some recognized man and start out to do this work as a specialty. There is usually plenty of it to do, and if they go at it with the proper desire, there is no trouble to get plenty to keep them busy almost from the start.

I came up here a considerable distance, although it is no further from San Francisco to Portland, than from Portland to San Francisco. I tried to get some of the other men to come, but was not very successful. I have indeed been well repaid for the journey. You people up here have been very kind in coming down to San Francisco from year to year. I wish the men from the South might have made a little better showing at this splendid meeting.

Dr. H. F. Sturdevant, Portland, Oregon.—Our president is a strong Rotarian. Service and not self is a motto of the Rotary Club. Service is an important thing in orthodontia, as he mentioned, because so many of our cases have to be carried over a period of a year or two, possibly in addition to the time originally estimated, and the necessity of watching our cases for the longer period, noting the impacted third molar, the muscular training of the patient, etc., is all vital to our work. So service is expected from the parent, as well as from the orthodontist. Cooperation is what is needed. Another thing: we do not get in close enough touch with the rhinologist. I do not believe one rhinologist in a dozen realizes the importance of the occlusion of the teeth with regard to the development of the nasal cavity, or the relation between the development of the jaws and the nasal cavity. If the orthodontist could more often get before the rhinological societies with slides and case reports, it would be a great boon to rhinology, as well as a help to orthodontia.

Dr. C. O. Engstrom, Sacramento, Calif.—I do not wish to let this opportunity go by without some statement in regard to this society, which is an important factor in the development of orthodontia. It may truly be said there is no East or West, no North or South in orthodontia today. The individual efforts of our members in the advancement of orthodontia are shown in this society. If you will compare the program which we have today, with the programs given in the East I am sure you will bear me out that our program represents as high a standing as any. It must be considered, too. that we are a small Society. Orthodontia had its beginning in the East, and most of the leaders have been of the East, but, considering the individual orthodontist I think that the orthodontists of the Pacific Coast stand equally well with those of the Atlantic Coast, and this Society unquestionably is bearing out and fulfilling those precepts advanced by Dr. Angle at the first meeting of an Orthodontia Society in this country.

Dr. Charles C. Mann, Seatle, Wash.—I wish to speak in respect to combining the practice of orthodontia with dentistry. In the smaller towns there is a need for orthodontic service. There is not enough work for a man to devote all of his time to that particular

line. It has always been my practice to encourage men willing to study and fit themselves properly by recognized courses to carry on work in the smaller towns. Speaking with reference to Dr. Wentworth of Everett, I have encouraged him to carry on the work in his town, which is some thirty-eight miles from Seattle. I feel in the larger towns the men could well benefit by cutting loose from general practice and entering the specialty, but I do feel that there is a field for combining this work with dentistry in the smaller cities, where men are willing to go away and fit themselves by the proper course of study. I think they should be encouraged to do as much good work as they can, and they are certainly benefiting their patients.

Dr. William Cavanagh, Portland, Oregon.—I wish to express my appreciation for the thoughts in the president's address on this anniversary. There is one excuse for a man embodying some dentistry with orthodontia, and that is the inability to get the dental restorations made according to the orthodontist's idea after he has completed his work. It is almost next to impossible to get the restorations we need. We will observe, however, that the brightest men in general dentistry in every city are eliminating orthodontia from their practice. Those we respect most in general practice, and those who put to it the most study are not practicing orthodontia. They are wise enough to know that it is a work in itself. I wish to express again the thing that comes to me as indicating the greatest progress we are going to make in the future. We have arrived at a point where, with the mechanical appliances we have, we can accomplish any desired result in the movement of teeth. I think it is generally conceded, we can put a tooth any place we desire in the mouth with the appliances at our command. We have gone far enough in the matter of appliances. Progress in the future must come from the more intimate knowledge of the histologic character of the tissues involved in the movement of teeth, more knowledge of the elements that are necessary in order to stabilize our results after we have obtained them. Nothing is more sickening, as the president says, than in noting the conditions in some of our patients five or six years after after the completion of our work. The pathologic position of the third molar does not explain it all. The inheritance of constitutional deficiency possibly prevents getting the results of which we are most proud. I think we must have a better understanding of the tissues on which we are at work, and a closer cooperation with the medical profession in building up our patients, so that our work will be permanent. I think all the progress we make from now on must come from the better understanding of glandular deficiencies, such as was touched on last night by Dr. Walter G. Hein of New York. We doubtless need some means whereby we can build up the patient generally. We cannot take an abnormal child and expect to make those jaws normal while the child is abnormal in many other respects. It will take a better understanding of general medicine and cooperation with the physician, I believe.

Dr. J. A. Rawling, Tacoma, Washington.—I did not care to throw a monkey wrench into the unanimity of this meeting. I have been doing considerable orthodontia and still do some general dentistry. I try not to let my general practice interfere with my orthodontia, however.

Dr. George W. Wentworth, Everett, Washington.—I would not offer an apology for combining general dentistry with orthodontia. I am willing to stand on my own feet, and do what I think is best for the people in the community in which I reside. Everybody cannot live in Portland, Seattle, San Francisco, Spokane or Tacoma, and if the patients cannot get the services of specialists, men who are combining general dentistry and orthodontia will have to render orthodontic service as best they can. That happens to be my lot in Everett. Some day I hope to be able to limit my practice to orthodontia, but am not willing to move into a larger community to do so.

With reference to the remarks made as to the cooperation of the rhinologist with the orthodontists, we have taken a step in Everett along that line. The County Medical Society invited me, to present for their last meeting, whatever I could regarding the normal and abnormal conditions of the teeth in regard to the health of the child. It was a step toward the cooperation of the orthodontist and the medical man, and I am sure some good will come from such a movement as things progress.

I want to thank my friends, Dr. Charles C. Mann, and Dr. William B. Power for making it possible, and urging me to attend this meeting. I need the stimulus which comes from rubbing elbows with those who are better informed along this particular line of work.

Dr. Morehouse, (closing discussion).—As to men in general practice doing orthodontia, there may be exceptions to all rules, of course. As specialists we see certain phases of it. Every man must be guided according to conditions existing in his own home town. The main thing is that we shall not overlook the final goal, which I have found too often occurs with those cases treated in general practice. We want to have these gentlemen with us and I hope in the near future they will be one of us.

ORTHODONTIC TREATMENT OF THE TEMPORARY ARCHES*

By E. A. Bogue, D.D.S., M.D., New York City

I HAVE been requested to give a little history of the case the models of which I will show.

The boy came to me at about six years of age; extremely deaf; the width of the maxillary dental arch was 27 millimeters. No other noticeable irregularity. Fig. 1—A is a portrait, full face. (Portraits taken May 16, 1916.) Fig. 1—B is a portrait, right side. Fig. 1—C is a portrait, left side. Fig. 2—A shows original models, *open*. Fig. 2—B shows original models, closed.

Fig. 1-*A*.—Full face portrait of patient before treatment.

Fig. 1-*B*.—Right side portrait of patient before treatment.

Fig. 1-*C*.—Left side portrait of patient before treatment.

Apparatus to spread the temporary grinding teeth laterally and the incisors and canines anteriorly was placed upon these teeth.

The expectation was that in moving the temporary molars laterally at so early an age the crowns of the premolars, which at that time are embraced by the roots of the temporary molars, might be carried with them, though, at that age, the palatal root of the upper temporary molar is partly absorbed.

*Read before the Alumni Society of the Dewey School of Orthodontia, Atlantic City, April 25-26, 1921.

By this pressure, the growth of the alveolus and the adjoining facial bones was stimulated to such an extent as to obtain for this boy what I look upon as a normal arch of temporary teeth, which would measure 35 millimeters across the second temporary molar region.

The rarity of normal arches of temporary teeth may be inferred from the examinations made of school children in the various northern cities of this country, where the reports give from 70 to 96 per cent of these children as being subnormal.

Subnormal means almost invariably too small arches, and arises, I think, from an arrest in the development of the child during the formation and eruption of the temporary teeth, and not from the various accidents that are gen-

Fig. 2-*A*.—Models before treatment. Open.

Fig. 2-*B*.—Closed models before treatment.

erally spoken of, such as the use of the "pacifier," the premature extraction of the temporary teeth, or leaving them in too long, or dental decay; all of which may have an influence towards irregularity but are not the prime cause of it.

The growth of this boy was arrested at another point, viz., the eustachian tubes, which were so curved as to partially close their orifices, making it difficult for him to hear enough to be properly placed in the chair.

The position of the permanent teeth in this case in relation to the temporary teeth, is well shown by the schematic diagram (Fig. 4).

My task was to do the greatest amount of good in the easiest possible manner, moving those teeth that required movement, and touching nothing with which it was not necessary to interfere.

My apparatus was placed exclusively upon the temporary teeth. In three or four months the spreading and growth was such that the curvature and partial stoppage of the eustachian tubes was so far corrected that from that time onward the boy's hearing continued to improve until now it is entirely normal.

At this stage, I made a hard rubber obturator for him, fitting the outsides of the closed front teeth and lying between the teeth and the lips when in place. For a short time adhesive strips were used on the lips to confine the obturator in place during sleep.

While this obturator is in place, the lips are becoming habituated to the closed position and mouth breathing is impossible.

The occlusion of the deciduous grinding teeth became such that the boy learned to masticate much more thoroughly than before, the air passages be-

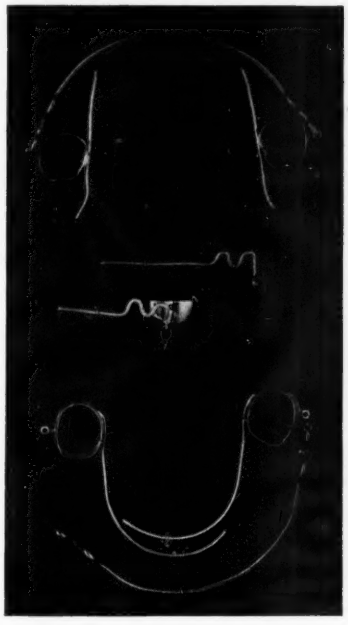

Fig. 3.—Spreading apparatus for deciduous teeth.

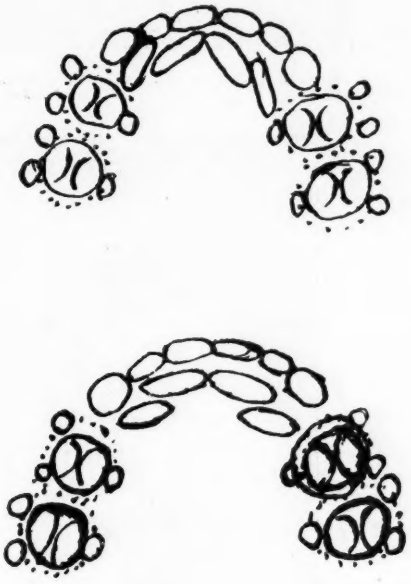

Fig. 4.—Relation of permanent crowns to deciduous roots before treatment.

tween the nose and lungs were broadened and the mouth which had been disagreeably open day and night when he came, closed and remained closed during sleep. Snoring ceased. The chest cavity enlarged to such an extent that even the heart began to operate more freely and the boy to grow.

In this instance none of the products of the ductless glands was used, and aside from such change in his diet as brought bran muffins, salads, fresh vegetables and the skins of baked potatoes, no medication, nor further change was necessary.

The regulating apparatus used was the Ainsworth pattern, which moves teeth without tipping them.

The wire arches were made of gold and platinum 18-gauge wire.

When the necessary spreading had been accomplished, the same appara-

tus was left in place until the temporary teeth, to which it was attached, began to loosen, when they were removed or came out together with the apparatus.

The occlusion at this stage is so good that the five or six permanent teeth that are not yet fully erupted will come to their respective places without further assistance.

The wire arches were held to their place by what we call "ear-ring loops,"

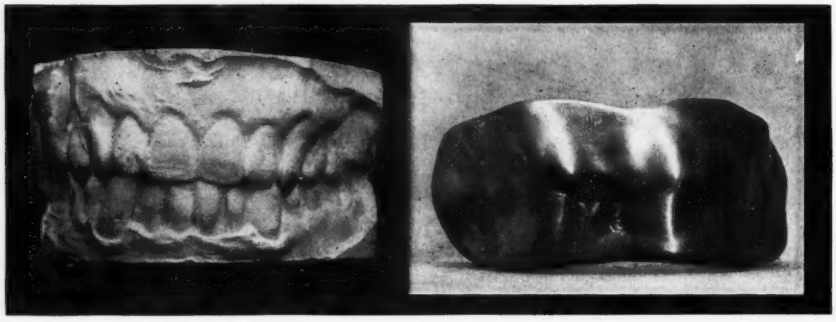

Fig. 5.—Hard rubber obturator to overcome mouth breathing after spreading the dental arches.

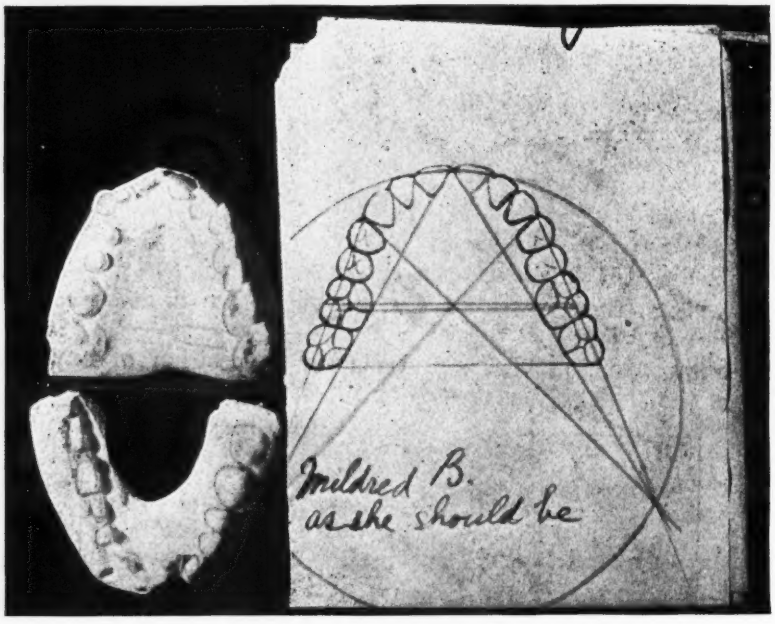

Fig. 6.—A predetermined arch of a defective case.

made of fine ligature wire, 28-gauge, passed through holes drilled in the ends of the wire expansion arches which had been placed in the vertical tubes attached to the molar bands.

The question now arises, how to determine the size of the arch to which I undertook to draw the temporary teeth?

I took the models of five nearly normal cases which I possess, and estimating that the permanent maxillary incisors are 1/5 larger than the temporary maxillary incisors, drew an arch after the Hawley Bonwill method of triangu-

lation which I found accorded very accurately with the sizes of these five nearly normal cases.

Fig. 6 shows that I could safely bring that temporary arch, which at the time the patient came into my hands was only 27 mm. broad at the 2nd temporary molar region, out to 35 mm. broad, and that this breadth and size of arch would allow the permanent teeth to come of themselves to their proper places in the arch of permanent teeth.

Taking the models of the temporary teeth (Fig. 7) from the first impressions I procured, I cut the maxillary model into three pieces, and spread

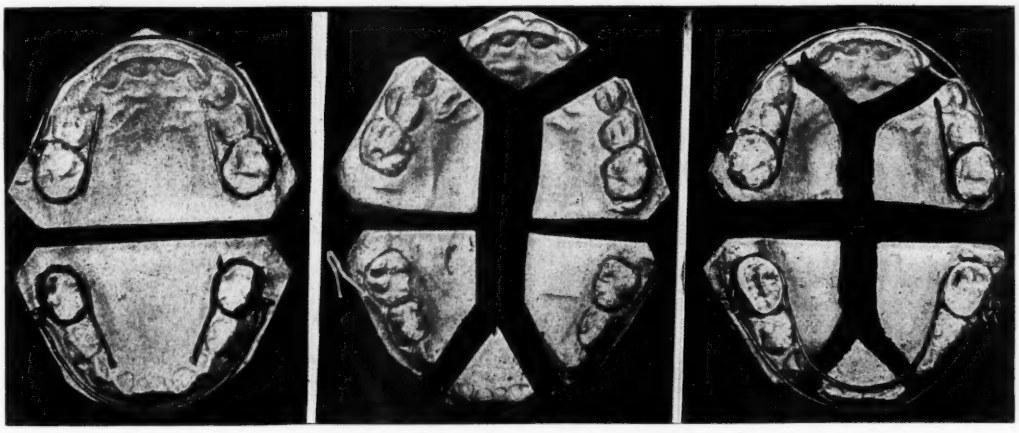

Fig. 7.—A process in construction of regulating spreader.

Fig. 8.—Large cavity of decay formed through defect in the enamel coating of the tooth.

the molar pieces until the 2nd molars were 35 mm. apart, while the incisors were advanced anteriorly according to the Hawley arch. These three pieces being attached to a bit of glass with melted wax were carefully articulated to the mandibular model, also cut into three pieces, which gave me the occlusion of these temporary teeth as they ought to have been had the patient been a normal child.

To these models I adapted bands and palatal wires above against the three teeth on either side; bands and finger springs below, which moved the

entire row of mandibular teeth including incisors; the regulating wire arches of 18- to 20-gauge gold and platinum wire, each of them having a double loop at each end so that the loop being drawn together when the arch was first placed could be adapted to the small arch as we began, and spread apart as we progressed until we required a second arch, which should be made at the

Fig. 9-*A*.—Open plaster models after correction by spreading deciduous arches.

Fig. 9-*B*.—Finished model closed.

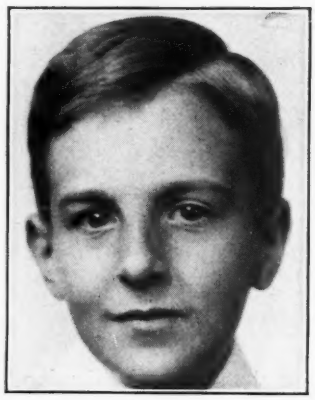

Fig. 10-*A*.—Full face portrait after treatment. (Ten years old.)

Fig. 10-*B*.—Portrait after treatment. Right side profile. (Ten years old.)

Fig. 10-*C*.—Portrait after treatment. Left side profile. (Ten years old.)

time of beginning, and which in almost every case can be kept in place until the operation is complete.

During the progress of this operation I saw to it very accurately that all the defects that I could discover in the temporary teeth had fillings in-

serted, as I know all too well what supervenes in cases where arrested development of the enamel of teeth is neglected (Fig. 8).

When I finally dismissed this boy, the four permanent molar teeth were almost entirely erupted, they each had three or four gold and tin fillings inserted into what were crevices caused by defective formation.

But at ten years of age, I had the satisfaction of finding that there were no cavities that required fillings in any of the permanent teeth. The boy has learned to masticate thoroughly and to thoroughly cleanse his teeth. I think he is in pretty good condition to avoid all dentistry that need be dreaded for the rest of his life. If he is regularly examined and cared for, he will in the future never have a large or painful cavity.

Fig. 9-A shows the finished model open.

Fig. 9-B shows the finished model closed.

Fig. 10-A is a full face portrait.

Fig. 10-B is a portrait of the right side.

Fig. 10-C is a portrait of the left side.

DISCUSSION

Doctor George F. Burke, Detroit, Michigan.—Relative to the use of the rubber mouth piece as shown to you by Dr. Bogue, I would like to ask would not its use during sleep act as a retainer worn by children who were under treatment for distoclusion cases?

Dr. Bogue.—You mean as a retainer of the teeth in position?

Dr. Burke.—Yes.

Dr. Bogue.—No, sir. It would have nothing whatever to do with that.

Doctor Burke.—Inasfar as its use means pressure from both upper and lower alike, extended through this piece on to labial surfaces of incisors, this method is well worth knowing about.

Dr. Bogue.—The question that has been asked brings up so many queer things that I confess I was a heretic before I did myself the honor of accepting your kind invitation. I believe myself that if a set of irregular teeth were actually brought to a normal position, anything that did not disturb the position of those teeth after you brought them there, would be a help because it would force breathing through the proper nasal passages, the posterior naris, and so on. By the time the teeth have been brought into their proper position (and there is a chance for me to be wrong) I estimate that the whole face, nose and various antra, and if taken early enough, the skull and thorax as well will be enlarged to such a degree that there is very little chance of the patient going back.

Dr. Frank A. Delabarre, Boston, Mass.—I am sorry, Mr. President, to wait for you to call upon me because I fully intended to speak on this subject, not as a champion of Dr. Bogue and his followers, but as a devout apostle. I have known Dr. Bogue for many years; I went to college with his son, and I have followed Bogue's work very carefully. He has led me by the hand, and he is the man responsible for my own adoption of that principle of orthodontic prevention which is concerning us all very deeply at present, and I look to Dr. Bogue as the first and most powerful advocate of preventive treatment in orthodontia. The results that he has obtained in his own office are perfectly astounding, and today he has simply let fall one drop of his knowledge to be absorbed by you.

I will also speak of the Ainsworth appliance he sometimes uses. I was with Ainsworth for five years when I started my practice, and I saw the development of this appliance that Ainsworth has given to us, and I have used it since as being peculiarly adapted to the treatment of these very young children and yielding the most beautiful results.

Dr. Bogue is not so tied up in the mechanics of orthodontia that he places undue emphasis on the mechanical phase of the subject, and if you sound him deep enough you will find in him a very deep appreciation of the benefits to be given to the individual patients which are not purely physical in the rearrangement of their teeth, but benefits which are reflected all through the physical body as well as the mental development. If you are going to make your mark in the world as Bogue has made his, you must cease to look upon orthodontia as a purely mechanical problem, and you must apply to it in practice and in study the other phases of the question which have to do with the development of the entire organism of the children on whom you are working.

I want to thank Dr. Bogue for his paper, and I wish to commend him to the younger men who have only started in orthodontia as a man whom it is safe to follow, and with whose doctrines they should become thoroughly familiar.

Dr. Sidney W. Bradley, Ottawa, Canada.—After you have expanded those deciduous arches, have you an approximate idea as to the percentage in which the premolars and permanent canines erupt normally? Do you follow the case right through until the child is ten or twelve years of age?

Dr. Bogue.—I have never thought of it in that way. Space is always made for the teeth to erupt normally; whether they do depends upon the physical development of the child. Yes, if you keep the friendship of your patients. That allows me to answer you in a roundabout way. I speak from memory, so I may be mistaken in my dates, but I think in 1905 there came to me two little sisters, one five years of age, and the other somewhat older. In 1910 the younger one being very ill was taken to Boston and put into the hands of a fellow practitioner there. The older one stayed with me another year or more, and then their father died, and I lost sight of the members of that family. I did not see these young girls for seven or eight years—may be longer. I went to a theater one night and sat in the back seat and my assistant nudged me and said, "Have you noticed how distinctly Miss ——— articulates?" "Yes," I replied, "I noticed how distinctly she spoke, and I patted myself on the back, if you please." The next day the mother of this young lady walked into my office with a large photograph of her daughter. On the face of it was written this message. "To Dr. Bogue, who is responsible for every success I have had or may have in the future." I had not seen that girl for seven or eight years, that message took me off my feet. Patients are not generally so grateful as that—at least, I have not found them so.

In November, that girl came into my office. I looked at her and said, "My dear, I am grateful beyond my powers to express for what you wrote me, but you do not speak distinctly enough for an actress. You have a lisp." She said, "I know that, but by taking a little pains I can correct that." A few days later her mother came in and said, "Is there anything that you can do to correct that lisp and make things a little better than they are." I replied, "I do not know." I did not dare answer or try to answer definitely. She said, "If there is anything you possibly can do to make things any better, find it out if you can, and tell it to me."

Our work, gentlemen, lies along these lines, and it lies more deeply than most of us know, and there are triumphs to be won of which we know very little.

If we begin early enough in these cases we can accomplish a great deal for them. I have made a good many experiments along these lines to see what can be done and have started to see if I could not regain something I had lost. I made models and charts. I know what I have done. I know what we have reached at a certain stage, and I know what we did in 1910 and in 1912. I know the main difficulties, and my greatest regret was that I did not treat that child before the age at which she was treated. The most rapid growth of the brain takes place before six years of age, if the brain box is not there to take it, what will happen to the brain? If I am not prepared for that and am not planning for the brain to go into a box of sufficient size, this part of the individual should be correspondingly enlarged. Growth will take place right along, and if mechanical spreading cannot do it, let other means do it, and then comes in what Dr. Percy Howe is doing at the Forsyth Institute, namely, finding that our food has much to do with it. I have found it so.

I have a number of patients now who are taking thyroid extract, pituitary extract, adrenalin, etc., and they are growing as they never did before, and as they grow, all these surrounding parts grow, and I want to accomplish my corrective work before the period at which this extraordinary growth ceases.

The treatment of these cases must be undertaken early if we would accomplish the best results.

Dr. Victor Hugo Jackson, New York City.—I am pleased with what Dr. Bogue has presented.

The doctor has called attention to several important features that should be remembered. Among them are the early regulation of the teeth and, the long retention of the teeth after such regulation. These are important factors in the work of the orthodontist.

The treatment for the regulation of the teeth should be taken up early in life before the bone becomes dense. In my opinion, this treatment is equally, or even more necessary than the early orthopedic treatment of general deformities of the bones of the limbs with which we are familiar.

Analogy.—A tender shoot of a sapling, while in its pithy state, is planted in a yard for decoration. With proper care this or any plant can be readily grown into almost any desired shape and, while in this state, its defects corrected by reshaping it, and then supporting it until there is sufficient woody growth to sustain it. For this reshaping the horticulturist would not wait until the sapling had become a tree of any size, as of three or six inches in diameter, before trying to improve its form.

We have been neglecting the child and, even though we knew it had a defective bony frame, amounting to a deformity, through lack of understanding we have not thought of interfering with it until the development had advanced and shown a marked deformity and, even then, we have been inclined to wait until the defect had become a confirmed deformity, vainly hoping all this time, that Nature would be able through further development to correct this condition.

In discussion at an International Congress, Dr. Bogue spoke for the welfare of the child and of the serious situation arising from the extraction of the deciduous or permanent teeth. Some one has to teach the profession and the public what can be done to protect the child against such a condition and no one has striven more in this work than Dr. Bogue. He has presented most helpful thoughts in teaching the humanitarian side of dentistry and has advised dentists of their duties to their patients.

He has dealt with the practical side of this subject and we should pay close attention to his statements. I am glad to render him my tribute of praise.

Dr. John A. McPhail, Cincinnati, Ohio.—I would like to ask Dr. Bogue if the wearing of the vulcanite obturator he has shown will help development and lengthen the undeveloped upper lip which we usually associate with posterior occlusion cases?

Dr. Bogue.—Yes, sir.

Dr. Irving Spenadel, New York, N. Y.—I have been interested in growth and development, especially with reference to the treatment of patients with medical therapy, conditions such as hyper- and hypothyroidism, pituitary, and renal.

Following Drs. Pryor and Rotch, I am examining children who come to me and present a history of some severe systemic disturbance they have undergone, which apparently has left some mark on the osseous structure of that child and retarded its growth.

I x-ray the hands of the child to determine the anatomic age as compared to its chronologic age, by a careful reading of the epiphyseal cartilages and also the position, size and shape of the carpal bones. If the x-ray shows that the epiphyses have not joined at a certain stage in the child's development; if it shows any deformity in the size and shape of the bones, or any process other than normal for a certain chronologic age, I send that individual to an internist who is better able to study the symptoms as they arise and vary from time to time, than we who have had no special training along these lines.

I have not been as successful as Dr. Bogue with this form of treatment. I have been getting patients at an age when comparatively little can be done to make any material

change both in their physical and mental conditions. Patients tire by the length of treatment they must undergo over a period of years which in many cases is prolonged throughout that individual's life.

I have had some results with a girl fourteen and a half years of age, anemic, x-ray showing large opening of the epiphysis which normally should be closed at that age. She was diagnosed as a case of dispituitarism. After eight months of treatment the girl gained in weight, height, and x-ray showed a slight closing of the cartilages.

I recall another case of great interest to me. A boy of sixteen, five foot six, weighing one hundred pounds, presenting a distoclusion with a marked open bite. This boy was treated by a general practitioner for four years with no apparent result. He gave a history as being the fifteenth child in a family of seventeen children, where all the girls are robust and strong, and the boys, who were born later, developed poorly both mentally and physically. An x-ray picture of the hand showed a poorly developed bone with a very wide opening of the epiphysis. An x-ray of the head revealed a poorly formed sella tursica. The boy is under treatment by an internist. His nocturnal bed wettings have ceased. If, however, his epiphyses remain open after treatment, in all probabilities his orthodontic treatment will be unsatisfactory.

I would like to know whether Dr. Bogue has had similar experiences with thyroid or pituitary treatment.

Dr. Edward A. Bogue, New York City.—A young lady of seventeen was brought to me by her father, who was a physician, at the instance of a great friend of the father, who was also a physician. This young lady was examined and it was found that her epiphyses were fully formed, and I discouraged the father from making any effort to do anything with the glandular extracts. She continued to come to me for several years, but once having been put right she stayed right. She takes care of herself as well as she can. I have not meddled with the food, believing it would not be right on my part when her father is a physician, but I declined to treat the girl any more.

Dr. Spenadel.—Do we get a closing up of the epiphyses?

Dr. Bogue.—You may remember that the Vienna surgeon (Dr. Lorenz), who was called to this country to attend the Armour child in Chicago did not treat a dislocated hip after five years of age. He simply declined it. I have declined to treat a good many cases.

Dr. Spenadel.—We can trace many of our failures to this process of finding out the real anatomic age, and where there will not be any material gain in closing the epiphyses it is best to let these cases alone. Don't you think so?

Dr. Bogue.—I am sorry not to be able to make distinct and clear all I say or try to say, but I do not know enough about the subject to say anything along these lines.

I wish to thank you for the kind invitation and the marked attention with which you have listened to me, and I hope some of my professional brethren may meet with a change of heart equal to what was told me last Monday by a gentleman whose name I cannot recall at this moment. I met him at a dinner and I said to him, "I believe you and one or two others are going to wipe up the floor with me about my heresies." They thought I was entirely wrong about a year ago. "Yes," he replied, "I will take that all back. I think you are right, and I shall begin to treat my patients as early as I can."

Dr. Guy S. Corley, Mattoon, Illinois.—You published a series of articles I believe in the *Dental Digest.* Do you recall the year in which those articles appeared?

Dr. Bogue.—They were published in the *Dental Digest* in 1912 and 1913.

EXTENSIVE LOSS OF SUBSTANCE OF MANDIBLE DUE TO REMOVAL OF SARCOMA; REPLACED BY BONE GRAFT FROM CREST OF ILIUM*

By Robert H. Ivy, M.D., D.D.S., Philadelphia, Pa.

E. H. B., MALE, age twenty-seven, mechanical engineer, gives the following history: When seven years of age had a large section of the left side of the mandible removed, comprising the full thickness of the bone, by Dr. S. C. Dayan of Syracuse, N. Y., who diagnosed the case as sarcoma. He then came under the care of Dr. H. A. Pullen, of Buffalo, who constructed a prosthetic piece which partially overcame the deformity and enabled him to masticate food fairly well. Of late years, however, changes in the shape of the jaw and in the position of the teeth have affected the fit of the appliance, and it became a

Fig. 1.—Full-face view showing flattening of left side.

Fig. 2.—Side view showing concavity due to absence of bone.

matter of necessity to seek further aid. Having moved to Philadelphia, he was asked by Dr. Pullen to consult Dr. John V. Mershon, who in turn referred him to me. Examination in March, 1920, revealed an absence of something over two inches of the left side of the mandible from the canine region to the angle. A small portion of the ascending ramus with coronoid and condyloid processes was present, this fragment being movable at the joint and drawn upward and inward by the action of the temporal and internal pterygoid muscles (Fig. 6). The remainder of the mandible showed great instability and a marked tendency to swing over to the left side, with consequent loss of facial balance and interference with function. The mandibular posterior teeth on the right side came

*Case reported before the American Society of Orthodontists, Atlantic City, N. J., April 28, 1921.

into occlusion with the mouth closed, but there was a considerable gap between the maxillary and mandibular anterior teeth (Fig. 3). Externally, there was a marked concavity on the left side due to absence of bone (Figs. 1 and 2). The objects of the treatment suggested in this case, were primarily the restoration of the continuity of the mandible to correct length of the bone as far as possible, improvement of the external appearance, and provision of a firm basis for support of an artificial denture to replace the missing teeth. The success attending bone grafting in cases of ununited gunshot fracture of the mandible during the recent war, led me to attempt a bone transplant in this case. Our experiences showed that probably the best results in analogous large losses of substance due to gunshot wound were obtained by employing a portion of the crest of the ilium for the graft. This portion of the skeleton furnishes a large, thick piece of bone, of porous structure closely allied to that of the mandible, and easily penetrated by new vascular supply. It can be used for losses of substance of almost any size, can be readily cut to suitable shape, has considerable inherent rigidity, and is of sufficient bulk to fill out large depressions giving rise to external deformity.

Fig. 3.—Showing interval between upper and lower anterior teeth.

The disability produced by removal of the graft is quite temporary, and the danger negligible.

Before performing the operation on this patient, it was necessary to provide some means of fixation of the right side of the mandible in its proper relation to the upper jaw. This part of the work was performed by Dr. James E. Aiguier. Impressions of the maxillary and mandibular teeth were made, and the casts arranged on an articulator with the maxillary and mandibular teeth in as near the correct occlusion as possible. Splints were cast in coin silver in two sections, one for the maxillary and one for the mandibular teeth. To the buccal side of the right molar teeth on each section, there was soldered a piece of square silver tubing, the sections of tubing being so arranged that when the two portions of the splint were brought into occlusion they could be locked together by means of a pin fitting into the tubing (Fig. 4). An attempt was made to press the small ramus fragment on the left side downward and backward into position by means of a metal saddle, lined with velum rubber, covering the

mucous membrane overlying this fragment and attached to the upper portion of the splint by means of a threaded wire and nut (Fig. 5). The saddle, however, produced so much irritation to the soft tissues that it could not be tolerated by the patient, and had to be discarded, and we had to be content with fixation of the large fragment in its proper occlusal relationship. The splints were cemented in place. On March 17, 1920, at St. Agnes' Hospital, an incision was made in the left submaxillary region, a skin flap turned upward, and the ends of the fragments of the mandible exposed by dissection of the deeper tissues. The

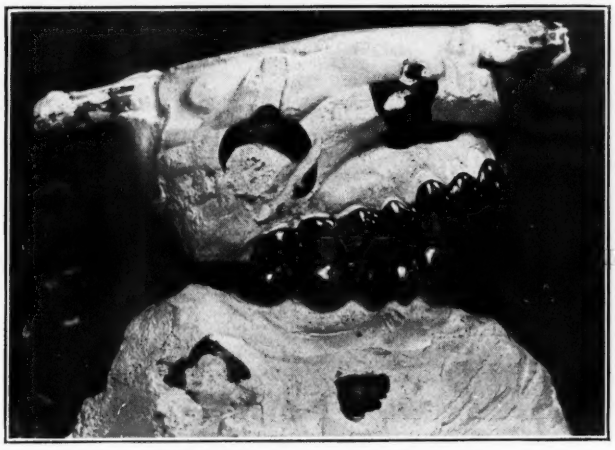

Fig. 4.—Right side of splint showing lock-pin.

Fig. 5.—Left side of splint showing saddle for control of ramus.

overlying periosteum was stripped back for about half an inch and the ends of the bone freshened with bone cutting forceps. A hole was drilled in each fragment. Hemorrhage was controlled as far as possible by clamping vessels and by gauze pressure. An incision was made through the skin over the crest of the left ilium, beginning at the anterior superior spine, and carried back for about three inches along the top of the ridge down to the bone. The muscles arising from the inner and outer lips were detached with the knife and periosteal elevator. With a metacarpal saw, beginning at and including the anterior

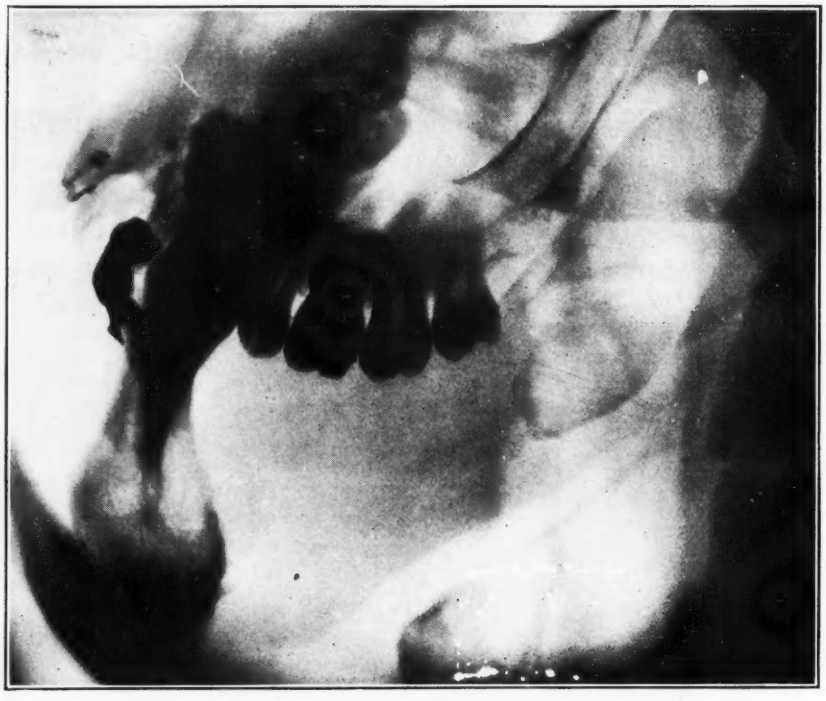

Fig. 6.—Radiogram showing defect in mandible.

Fig. 7.—Radiogram six months after operation showing iliac graft in position.

superior spine, a piece of the entire width of the crest was removed, two and one-half inches long, the required length being determined by measuring the mandibular gap. The detached muscles were now brought over the top of the

ilium and sutured together with chromic catgut. The skin incision was closed without drainage. The graft, handled only with forceps, was now drilled at each end, placed between the mandibular fragments, and fixed to them by means of silver wires passed through the holes in the graft and in the ends of the fragments. The deep tissues and skin were sutured over the graft and fragments in two separate layers. A rubber drain was inserted under the skin for twenty-four hours to carry away any oozing blood. A few days later, considerable suppuration began, which resulted in exposure of the outer surface of the graft for several weeks, but the wound eventually closed, and the vitality of the graft was not interfered with, firm union resulting at both ends (Fig. 7). There remained, however, a depressed scar, adherent to the bone. On October 15, 1920, this scar was excised, the skin edges were undermined for some distance, and after complete hemostasis a strip of fascia lata from the left thigh was inserted into the pocket under the skin, being retained in place with a few catgut sutures. The wound was closed with interrupted sutures of horsehair. In this manner the depression was obliterated. The wound healed without complications, the sutures were removed on the sixth day, and in ten days the patient was up and about.

So far, we have succeeded in restoring the continuity of the jaw, have corrected to some extent the external deformity, and provided a firm basis for an artificial denture. The latter is now undergoing preparation by Dr. Aiguier.

I believe this case shows that we have in bone grafting a valuable help for cases, of which there are not a few scattered throughout the country, of large loss of substance of the mandible either from necrosis or other disease, and which have hitherto been regarded as beyond surgical help and only amenable to palliative measures.

THE LINGUAL ARCH LOCK*

By Herbert A. Pullen, D.M.D., Buffalo, N. Y.

DURING the past year many varieties of the lingual arch lock have appeared, each with its own peculiar claim of efficiency, inconspicuousness, or lack of interference with the soft tissues. A number of these various locks are shown in Fig. 1. The type which has been more generally used is shown at *A*, the lower locking arm, of smaller diameter than the base wire, extending distally from its soldered attachment to the base wire. Various materials from gold

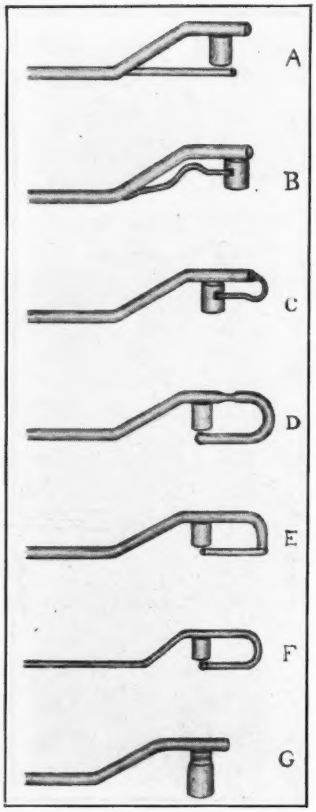

Fig. 1.

and platinum to pure gold have been used for this lock arm, some orthodontists preferring a spring wire of gold and platinum, others a lock arm which can be bent out to unlock the mechanism, and bent in to lock it, using a 20 K gold wire or one of pure gold. The latter material, while very pliable, will not stand the wear of frequent bending but the 20 K gold wire will endure throughout the treatment satisfactorily. The advantage of a lock arm that will bend is that there

*Clinic before The American Society of Orthodontists, Atlantic City, April 30, 1921.

is no spring to resist the placing of the half round rod in the half round tube and it is also readily unlocked by bending the lock arm out of position first.

The writer is convinced, although opinion is divided on the subject, that the distally extending lock arm as illustrated at *A* and *B* is not as simple or as efficient a lock, or as easy to unlock as the mesially extending lock arms shown at *C, D, E* and *F*.

Attention should be called to the unusually refined modification by Dr. Murless of the distally and mesially extended lock arms at *B* and *C,* and the insertion of the ends of these lock arms in sockets in the side of the half round tube. This locking device is inconspicuous, and out of the way of the tissues, although a little complicated to construct and manipulate.

The form of lock illustrated at *D,* being a construction of the 19 gauge wire bent upon itself to form the lock, is the simplest form of lock yet made, being easier to unlock than a distally extended lock, and requiring a less number of soldering operations to construct. In order to lessen the strength of the spring in unlocking it, the circumference of the wire may be grooved so as to present a section of smaller diameter, and hence less resistance to the effort made in removing the attachment.

A modification of this lock at *E* consists of a soldered arm of 20 K gold wire which can be easily bent outward in unlocking and inward in locking the mechanism.

When the lingual arch is entirely constructed of .030″ wire, the lock arm being a continuation of the base wire as at *F,* the resistance of the spring in the lock arm is just about right for easily springing the lock arm out and in during removal and insertion of the appliance.

This brief analysis of the lock attachment to the lingual arch would seem to confirm the oft repeated axiom concerning the simplicity of construction of machines, for the lock with the least number of soldered attachments, with the lock arm extending mesially is in theory as well as in my own experience, the most efficient, and most satisfactory.

An ingenuous modification of the arch lock by Dr. F. Merrill Weeks is shown at *G,* the locking device consisting of a spring lock in the tube itself, which is thinned on the upper edge and contoured in to fit a narrower portion of the short rod when it is inserted in the tube. This lock does away with the necessity for an extension of the base wire for locking purposes and represents the simplest lock which has as yet been presented, although its construction is a little difficult.

In all of these locks, a slight narrowing down of the end of the short half round rod will enable one to more easily insert it in to the half round tube.

The formation of both rod and tube in the shape of a truncated cone cut in half lengthwise has been suggested as being of a form which would allow much easier insertion and removal of the rod, and the next development of the lock will probably be along this line.

THOUGHTS ON ORTHODONTIC TEACHING WITH PRACTICAL RESULTS*

By G. F. Cale Matthews, L.D.S.

THE invitation to give a paper before this Society finds me in a position of apprehension. The difficulty is the choice of a subject. To choose any one special part of the great specialty of orthodontia and present anything new, may only involve us in a debate, which will have no definite result, and the value be lost in side issues which bulk so largely in any discussion.

Experience of twenty years of orthodontic study and practice and some ten years of active and definite teaching has led me to some conclusions which I venture to put before you this evening, in the hope that something may result which will afford us an interest which is at the moment lacking.

I do not propose to enter into any questions tonight of treatment, diagnosis or apparatus, but to generalize on the question of orthodontia and the attitude the profession takes in regard to its practice. Is it one of silent contempt due to many causes? Or, is the lack of interest due to the great amount of work which awaits us and prevents research in this and so many branches of our specialty? May I digress for a moment and ask your permission to state briefly the position of orthodontia in this country? This Society was formed by a few enthusiasts to study orthodontia as a live science, and one may assume thereby to be helpful to the profession and through it to the nation. After years, what is the result—a very small Society doing a useful work in a very limited sphere—its meetings largely confined to individual criticism and ideas of treatment—no enlarged view of the usefulness of work that may be done and should be encouraged—and in consequence still an indefinite idea in the mind of the average general practitioner that orthodontia is anything more than a fad and only for the specialist, and cannot be undertaken save at great personal worry and disappointment.

With this attitude I entirely agree and for this reason that no endeavor has been made by individual or school to educate and instruct the profession or public in the value of skilled treatment. It must be remembered that the bulk of practitioners do not read any great amount of current dental literature.

A difficulty to combat is the lack of appreciation of the principles involved in the discussion of any point (apart from the obviously simple), which is so entirely essential in the study and practice of orthodontia, and with all respect to some, treatment so often follows a line of compromise that the underlying principles probably get lost in the transaction. Too often difficulties are foreseen which never arise, likewise too, cases are regarded as quite

*Read before British Society for the Study of Orthodontics, Feb. 9th, 1921.
Illustrated by Lantern Slides of Models of Cases before, during and after Treatment.

simple which involve considerable treatment to correct a slight deformity; often, too, cases presenting apparently considerable difficulty suddenly resolve themselves beyond one's most sanguine expectations. How to deal with all types in so confident a manner that all anxiety can be eliminated is still far from possible, and may never be probable, but it is only by constant observation and the close attention of many workers that any advance is likely to come.

Thus the casual worker in private general practice can hope to get very little further, as the limitations are too manifest to allow of sufficient experience.

"*Experientia docet*" might easily be the title of this small paper, and not in the satisfied sense of the egoist, but in the wider sense of a limited satisfaction of small things accomplished and hope of greater things to come. Experience is the ablest teacher in the school of orthodontia, and this makes the practice so unalluring to the many, the opportunities of gaining the necessary experience being limited to the practice which must be done but is not encouraged; but the responsibility is still heavy on those lonely practitioners who make no practical effort to deal with the subject, and leave their patients to grow up with existing deformities or mutilated dentures.

A few enthusiasts whom we all know are called upon time and time again to diagnose and give an opinion on a case which is of special interest to a given practitioner. If that opinion is asked for in an open meeting by means of a casual communication, the immediate result is most likely to develop into a debate on a particular type of mechanical device, which may or may not be within the mechanical ability of the practitioner to operate, so the incident closes without anything definite having been derived, and the seeker after information possibly and probably retires from the fray in a more confused mental condition than before he asked for information. Now it is obvious that it is quite an impossible task to define treatment of a case to anyone not thoroughly versed in the whole theory and practice of orthodontia as recognized with the present knowledge and experience. The schools have persistently refused to recognize the subject with any definite syllabus and practice, and the final examinations are devoid of any real appreciation of the value of its practice to the qualifying student. The lack of any definite teaching leaves men to their own resources and their inclinations being possibly toward the easiest solution of an apparent and present deformity, a treatment is adopted which may ultimately ruin a denture which could have easily been rendered efficient and artistic.

So much could be done if the schools would adopt a definite system of teaching, recognizing that orthodontia has proved its right to be considered an important part of a student's curriculum, and that it is quite as important to know how to treat the deformity existing in a child's developing denture as to place sixty or eighty more or less indifferent gold fillings in teeth which could be equally well filled and perhaps more lastingly preserved with other materials.

The difficulty of obtaining teachers must for some time be considerable—

no one should be allowed to take full responsibility in this work whose only credentials are theoretical—a wide experience of actual practice should be a *sine qua non.* This under our present system is impossible, but with a wider outlook sufficient enthusiasm should be forthcoming to make this both possible and remunerative. The question of the "right to live" may have some effect on the situation, but given the right man with proved ability, the support of his colleagues should be sufficient to free him from financial anxiety. An essential trait in the successful practice of orthodontia must be a real fondness for children, with unlimited patience if necessary. These advantages are not possessed by all and it is well for the man who thinks of specialization to consider these two essentials before embarking on this work.

With a desire to get something definite decided, a teaching method was started at the Birmingham Dental Hospital on standardized lines.

After a little time, two or three years, sufficient impression had been made on my colleagues for them to agree to some change in the curriculum, and coincident with this I was appointed lecturer at the University. Now there was some responsibility and with that responsibility the opportunity to get to work. No originality can be claimed for the syllabus as given—it is obvious that headings of lectures can only convey limited meanings; but the point is that by combining the work of lecturer and orthodontic surgeon one can carry one's work through on a regular plan. It has been a one man show entirely; in this sense, that it has been a lone road to travel and one has had none of the advantages of discussion with one's colleagues such as could occur in London, and with the exception of an occasional chat during a visit, experience and reading have been the only guides possible. Our duty as teachers I understand to be the efficient training of the average man to regard his professional obligations seriously and to render him capable of recognizing the various pathologic conditions, and when he may be called upon to treat them, to do so with the best that is in him. If any part of his curriculum is deficient, so much is lost to him and to those who come under his care.

To illustrate the entire apathy of the profession toward orthodontic practice one has only to realize that no one is specializing in the whole country with its 40,000,000 of population and the perniciously ignorant practice of extraction still holds sway.

Why are there not fifty orthodontists practicing in this the greatest city in the world? It cannot be through insufficient work to be done. Is it our curious national disinclination to split our work? Is it a dislike of or disbelief in the work itself? Or is it a false premise that no one in this very conservative country of ours would have the support of his colleagues to enable him to exist? I do not venture to reply to these questions.

The responsibility of the school dentist is very heavy in this respect, but the difficulty must be overwhelming. Only the simplest of cases could be treated with the time at his disposal. What is the remedy for all this well-known deficiency?—the establishment of clinics for orthodontia work only, which could be staffed at the present time by enthusiasts; so we must rule that

proposition out and trust to the future to bring us forward by the demand of the public for service in this essential department of our work.

What is the result so far of what I fear you may think very obvious and also very personal reflections?

One of the difficulties in advising the man in practice is that of being up against something. An antagonism, unconscious perhaps, which has grown from the early days when during studentship disappointment may have followed disappointment, and that ten minutes allowed to examine two or three cases, diagnose and define treatment in the final examination seemed so short; and having defined a treatment, the greatest hope of success may have been due to the number of permanent teeth advised to be removed.

The illustration of cases in journals does not always have the desired result—they may be regarded as fakes and not to be taken seriously, but immediately a student is shown his own capability this attitude of derision vanishes—not so with the practitioner, it is either "I do not treat regulation cases," or "I remove the teeth and hope for the best."

A definite requirement of accomplishment is now demanded of every student in the matter of orthodontic work.

This obviously is often regulated to a man's capacity, nevertheless it is essential that he fulfil certain duties. A minimum of four completed cases—two Class 1 or neutroclusion, and two Class 2 or distoclusion, with any type of apparatus suitable. Any cases of Class 3 or mesioclusion being non-compulsory.

The war called a hiatus in the number of students available and a sudden drop from thirty-eight to four rendered the department almost inoperative for a time. With normal conditions again a big influx of students and overwhelming material there are now some 250-300 cases under treatment. The method is simple. The children are seen in the examination department, and then passed along to me. They are allotted to the student who requires a case. He then fills one of the cards as shown on the screen with all available history and takes impressions. With the models and patient a diagnosis is made and treatment defined—the apparatus obtained or made as the case may be, and the student carries on with occasional inspection or help as required, remembering that coincident with his starting treatment he is also taking or has taken his lectures. That is a point of great help. The lectures are almost entirely by lantern slide, diagrams and specimens and are thus practical, interesting and easily understood. Questions are also encouraged, and a feeling of interest and camaraderie engendered.

There is no elimination or picking of cases. All cases are treated as the accommodation occurs. Difficulties are not to be avoided but to be surmounted; and I think you will gather from the slides that we do not fear difficulty. It happens that a student may be unable to complete the case, if needing long treatment, during his time, particularly if taken late in his career; under those circumstances proportionate credit is given him; but to avoid his successor having an easy finish I may complete the necessary attention or hand it to a senior student who is keen.

It is necessary to remember in this connection that the teaching is entirely toward the ideal and the full appreciation of the facial contour shall play an equal part in the correction of the deformity. To many this comes as a surprise. My theory is that if a systematized method has been taught and shown to have satisfactory results the student will hesitate to resort to irregular methods later when thrust on his own resources, and proof of this is constantly arising by the evidence of enthusiasm among the younger, sincere qualified men and the students themselves. It is not an uncommon thing for an earnest student to have as many as eight or twelve cases running at a time.

Now may I for a moment say a word on types which I have definitely laid down for treatment as the result of experience, not that I wish you to discuss this debatable point tonight, but to prove to a student his capabilities and to give him confidence. Under no circumstances are teeth removed to "make room" unless irreparable, particularly so in neutroclusion with high erupting canines; this is my particular fad, for I regard this type as being steadfast, and a due appreciation of the facial contour will convince the most sceptical that of all the teeth the canine is probably the only one correctly placed, owing to its late development. Expansion plays the initial part in general treatment, and I would like to place on record my personal gratitude to Mr. Badcock for his useful device; in fact I am often inclined to remark: "*Expansion! expansion! toujours expansion!*" Distoclusion cases are treated in the generally recognized and orthodox manner.

It is customary to use the appliances of the B. I. Co. for economy in the case of fixed appliances with ordinary expansion arches.

The expansion plate with a slight modification of the one known as the Badcock, *i.e.,* the labial arch is carried behind the last molar rather than as a crib of the first permanent molar. Apart from any debatable point in this I find it removes a technical difficulty in avoiding the damaging of the model in fitting; the average student not being a very skilled mechanic in orthodontic apparatus.

Jackson appliances are occasionally made, but they involve rather more time than a student can always spare.

LINGUAL ARCHES BOTH FIXED AND REMOVABLE

An endeavor is made to choose the most suitable appliance. A difficulty often to be overcome is the cost of these more delicate appliances—but many students will purchase their own precious metal rather than be debarred treating the case along suggested lines.

The result of some cases I venture to show you presently with the help of the screen. The preparation of models I will ask you not to be too critical over, as their correct orthodontic illustration requires much time, and many of these slides were taken hurriedly in the midst of the war under difficult circumstances.

Some modification of instruction has been necessary this year owing to the great amount of work, and there is not the possibility of giving so much

individual attention. But I give a demonstration or illustration of the fixing and fitting of all types of appliances to classes of six or eight at a time, and thus they can carry on with very little assistance.

The most satisfactory feature is a keenness and appreciation of both student and patient, and I have had more joy in my teaching work since I have taken this subject than in all the years before. The slacker does not practically exist—the plausible one may be present, but the force of example is generally sufficient to induce him to get along with things, and in the end he will acknowledge his regret at not getting going earlier. The result I hope from this initial training is a body of earnest general practitioners who will endeavor to do the right things, and if beyond their capacity will recognize that fact and ask advice or pass the case along to one more capable.

Time allowed me is short and I should like to run through some slides to show you results obtained. I do not think we can discuss the treatment adopted tonight, but you may gather from these slides that the cases are not like Bill Adams' famous army, but are taken seriatim.

These cases are mixed in the sense that some are from my own practice while others are student's work. I will endeavor to remember which, in passing. They are mainly taken, with one or two exceptions, as types which are common, as is obvious to you who have so much experience.

A point I would like to make is that in so extensive a practice as develops in a hospital, diagnosis has to be made quickly and systematically, and while it may be necessary to change the method of one's treatment, it is advisable that care should be exercised in giving a diagnosis and classification.

In doubtful cases of distoclusion due to mutilation or causes which have obviously led a case to change its class, I do not hesitate to classify in its present condition, but may treat on the lines of another classification. In this sense a distoclusion may develop in a case of neutroclusion, due to the crowding of anterior teeth, to treat this as a pure case of distoclusion is to court failure from the start—whereas the correct alignment of the upper anterior teeth will so liberate the mandible that a normal occlusion becomes automatic.

Since writing the foregoing I have had the good fortune to see a great number of radiographs passed through the lantern consecutively.

The conclusion was gradually borne in upon me that most of the troubles which the x-ray is called upon to decide definitely are due to faulty occlusion from many causes, among them being extraction, judicious or otherwise, faulty fillings not fulfilling their requirements, badly occluded crowns, spaces unfilled by prosthetic restoration, all pointing to lack of function, with consequent absorption of alveolus, tilting of teeth, elevation, pocketing of gingival margins thus opening the way for pyorrhea and the eventual loss of teeth, with the probable accompaniment of ill-health. How much of this might have been prevented if correct occlusion had been established and proper function maintained? For this reason alone, does not the practice of orthodontia justify itself? The alarms raised by some that the prolonged wearing of apparatus is and will be a definite cause of pyorrhea has yet to be

proved. Anything may happen with ill-designed, carelessly applied apparatus, but this does not establish a case against the practice of orthodontia, as so many assume.

I can assure you that it is quite an uncommon thing for any serious condition to arise in connection with the soft tissues with student's practice, the careful explanation of the obvious causes of discomfort due to faulty manipulation assisting the student. I do not wish you to assume that there is any fool-proof system adopted, but the possibility of constant insistence of the necessary caution is very helpful. This is possible from the twofold position occupied, viz., lecturer and orthodontic surgeon.

You will pardon any apparent egotism in these few remarks. It is so difficult to avoid the personal note. My whole desire is to create a wider horizon to show that such important work is largely possible to the man of ordinary intelligence and capacity, and that the stultifying result of the too obvious criticism of things that may happen has a demoralizing effect on the advancement of any subject and more particularly on such a one as orthodontia, in the practice of which evasion of responsibility is regarded as a virtue.

At present the great difficulty of passing on cases for supervision or continuation of treatment is almost insuperable, and thus treatment has often to be delayed or abandoned, particularly where great distances separate the dentist from his patient, and the schools are not very helpful in this respect, though in some the half-term holiday allows a visit. Consequently a course has to be adopted which prolongs the treatment.

Before closing these remarks I must offer my thanks for favors already received and more to come, to Mr. S. H. Roe, who has lately transferred his affections from the prosthetic to the orthodontic side; we are thus enabled to superintend the whole of a morning's work between us by division of labor. Also the very loyal help of our Dean, Mr. Thompson Madin, whose enthusiasm has enabled me to carry matters this far.

Please remember that like yourselves I am in general practice (unfortunately), and today that involves a very steady and arduous occupation, at any rate in the provinces, so that any possibility of indulging in fancy specimens or to preparation of models becomes an impossibility from the mere shortness of time. I thank you for a patient hearing. I may have said some apparently unkind things. They are not meant to be so; they are given with the sincere hope of enlisting sympathy in the work; work which when once established on a sound basis would do much to improve the health and appearance of the young and future generations.

There is as you all know a very great satisfaction in restoring or reducing to a perfect occlusion an unsightly and inefficient denture.

The schools should be unanimous in teaching methods of orthodontia. A schedule should be drawn up on the evidence of the highest development of orthodontic knowledge, and the subject should be given its due place in the higher examinations, particularly those for a Degree in Dentistry. School dentists should have a sound working knowledge of orthodontic principles,

and if unable to undertake treatment should work in collaboration with an orthodontist wherever a clinic exists.

It is astonishing the amount of work that can be accomplished in systematic routine.

It is quite possible that in large centers, or where schools exist, an independent clinic could be established where practitioners could take a course, and students should be drafted for a definite course of lectures and practical work.

This would save expense and bring the teaching under one definite system. This does not mean that only one type of apparatus should be used or any individual's peculiar ideas dogmatized, but that the shortest possible course should give the student the best knowledge available in the time. The American courses of postgraduate work would not appeal in this country, but the possibility of creating a very useful department of our work is clearly pointed out. It must be remembered that the teaching for any of the licenses already embraces the theoretical teaching, and it is the practical application of that knowledge that is wanting.

I should like to see every school working in harmony with a definite syllabus, well considered both theoretically and practically. Would this Society endorse the following suggestions and use its influence so that:

Every school should appoint a teacher in orthodontics, with practical teaching a prominent feature.

More serious attention should be given to this subject by the examining bodies.

Every endeavor should be made to foster the practice of orthodontia and stimulate the profession towards its practice.

I have, I fear, not given you much material for discussion and may have labored the perfectly obvious, but if by such very obvious truths one can arouse interest and cause this Society to impress on the teaching authorities their responsibility in the matter of orthodontic training, some useful purpose may have been served by the time spent in listening to a "provincial" member who has had the temerity to address you.

DISCUSSION

The *President* was sure all the members felt deeply grateful to Mr. Cale Matthews for coming from Birmingham to deliver his very interesting paper and for showing such a large number of valuable slides. He knew something of Mr. Cale Matthews' work in Birmingham, and could appreciate the enormous amount of energy which he threw into his duties at the University there. The subject of the paper was one on which Mr. Matthews could speak with authority, because he had twenty years' experience in his work and had been a teacher and lecturer at Birmingham University for a number of years. The time was very opportune for a discussion on orthodontic teaching; there was at the present time a lack of uniformity in the teaching of orthodontics not only in British dental schools but throughout the world. No definite curriculum had as yet been agreed upon. But while so many matters were passing through a period of reconstruction after the war, it was natural that their Society, being a Society for the study of orthodontics, should consider how it stood with regard to the teaching of that subject and how it could best be undertaken. He was glad Mr. Cale Matthews had not dwelt unduly on particular methods of treatment and the various appliances that could be used, because at the present time it was more important to consider general

principles than details. As he had already mentioned in his Presidential Address, it seemed to him that the teaching of orthodontics should be considered under two main headings: firstly with regard to the general practitioner in dentistry, and secondly with regard to the dental surgeon who wished to specialize in orthodontics. When the question of a curriculum for the orthodontic specialist was considered, there were not so many difficulties to be faced as in the case of the general practitioner, because it would be generally agreed that the specialist should have included in his curriculum everything that really pertained to orthodontics, and the postgraduate course should be framed accordingly. As Mr. Cale Matthews had said, there should be many more specialists in orthodontia in this country than there were at the present time; and he looked forward to the time when there would be at least one orthodontic specialist in every big town, and many more in such cities as London, Birmingham, Manchester, etc. When it came to planning a course for the general dental practitioner, however, care must be exercised—as he had pointed out at the last meeting—to see that an already heavily-burdened curriculum was not overloaded. In such circumstances orthodontics could not be taught as an isolated entity, but must be regarded as an integral part of a complete scheme. There must be a short clinical course, and there should be lectures by specialists on the subject; but for the most part the teaching should be confined to fundamentals, so that when the students came to deal with cases they would be able to collaborate intelligently with the specialist and be able to work with him. Some sort of curriculum might be drawn up, but the main point was to train the students on general lines. Training in orthodontics need not necessarily be left until the final year; if the curriculum was regarded as a whole, orthodontic principles could be introduced at quite an early stage. Such subjects as the development of the jaws, the process of dentition, theories of inheritance and acquired characteristics, etc., could be brought in and applied directly or indirectly to the subject of orthodontics, so that the student would be able to take it up intelligently when he came to give it more specialized study in the latter part of his course.

Dr. Sim Wallace thought the author was not correct in saying that the paper did not lend itself to discussion. Time would not allow him to deal with all the points in the paper he should like to discuss, but he would like to protest against the phrase "the perniciously ignorant practice of extraction." Nearly twenty years ago he had been, for a short time, a disciple of Angle, but fortunately he came to the conclusion, by a process of reasoning and by experience, that the only sound method in many cases was to extract certain teeth, generally the premolars. Mr. Cale Matthews had indicated his love for the no-extraction theory by saying "*Expansion! expansion! toujours expansion!*" Personally, he had always desired an opportunity of getting a case concerning which he could put down in black and white the result of carrying out Angle's treatment over a period of three years and getting the teeth into normal occlusion, thereby obtaining an illustration of the merits of "no extraction." He wished to give some figures in the case of a young adult, with which he was familiar. The face might be taken as typically normal, the measurements, as given by the prosopometer, being auriculo-nasial, 98 mm., from the auricular point to the alveolus, 97 mm., from the same to the tip of the upper incisor 98 mm., and to the tip of the chin 122 mm. Coming next to the prosopometrical measurements of a lady who had been under Angle's treatment for about three years, the corresponding measurements were 97 mm., 102 mm., 108 mm., and 112 mm. He would like Mr. Cale Matthews to draw two faces to those measurements. He would find the first perfectly normal, but with the other the tips of cutting edge of the incisors are about a centimeter too far forward. Expansion was always forwards; one could not get much room by doing it breadthways. (A Member: "Why not? Certainly you can.") The reason was because there was only a limited amount of room except in the forward direction; but the chief point was that forwards was the direction of least resistance. In the case with which he was dealing, not only were the front teeth a centimeter too far forward but the chin was a centimeter too far back. Extraction was by no means an ignorant practice, nor was it pernicious. It was not done through ignorance, because it had been arrived at after studying Angle and various other people who advocated no extraction. He did not doubt that Mr. Cale Matthews would come, in time, to agree with him; and he thought that gentleman's work had had the best results, to judge from the examples given, where, either by chance or mistake, some teeth had been extracted.

Mr. Lacey said he could not let Dr. Sim Wallace's remarks pass without a very strong protest. Mr. Cale Matthews, in his paper, laid down some fundamental points, which personally he thought should be considered as the basis of all orthodontic teaching: first and foremost, the relation of the arches to the facial contour, a thing which seemed to be very often left out of account, and secondly, the question of expansion. The causation of irregularities was merely a question of the development of the bone, or its nondevelopment, and not a question of the malposition of the individual teeth. If one developed the growth of the bone in any way one obtained normal teeth in normal occlusion in a normal jaw. He felt that those two points could not be overemphasized. As Mr. Cale Matthews stated later in his paper, radiographs taken later in life showed the most pernicious effect of extraction.

Mr. Steadman said he had listened to the paper with very great interest, and had been able to study an advance copy of it beforehand. He must say that he had hoped to find broader views expressed in it, and that the author would have attempted to find out what other schools were doing. From Mr. Cale Matthews' paper one would imagine that Birmingham, and Birmingham alone, was trying to teach orthodontics, but as a matter of fact there were schools in London which had been teaching the subject for the past twenty-five years. At the Royal Dental Hospital there were men who took advantage of the enormous clinic of that hospital to add to their knowledge of some of the causes of irregularities, and he ventured to think that no school had done more to add to that knowledge than the one attached to the Royal Dental Hospital. At Guy's, too, there was another school which devoted time to the study of orthodontics, only there they did not take the same narrow views as those held by Mr. Cale Matthews. The London Hospital School of Dental Surgery had a lectureship on orthodontics which had been running ever since the school started, and one of the most distinguished Fellows of the Society was a lecturer there for some years. Mr. Matthews was also incorrect in stating that those schools had no regular syllabus.

He did not follow what the author meant when he wished for "definite practice" to be introduced. In the present state of the subject definite rules could not be laid down, and deformities were so varied in character that he doubted if it could ever be done. At the Royal Dental Hospital they endeavoured to teach the students the broad principles of the subject, and he did not think more could be done in the undergraduate stage. It was one of the chief glories of their profession that its members were always learning, always slowly but steadily advancing in knowledge. It took years to acquire even a passable knowledge of orthodontic work; and all they could hope to do in the case of students was to teach them the broad principles, and teach them to think and reason for themselves. To speak of extraction as "perniciously ignorant" was a sweeping condemnation of those who differed from the author's views, and one which he thought Mr. Cale Matthews' position in the profession did not justify him in making. In the various dental schools of the country there were men who possessed just as good qualifications as Mr. Matthews who differed from him on the question of extraction, and they were not old men either, but young and active practitioners. It was surely rather presumptuous on the part of any one man to stigmatize their practice as "perniciously ignorant."

With regard to the examples of treatment the author had shown, he said that he never took out a tooth to make room, and never took out a molar to allow a canine to come down. As Dr. Sim Wallace had pointed out, the pushing forward and expansion which might ensue would cause complete ruination of the facial contour.

At the Royal Dental Hospital, as at some other schools, they were very careful to avoid appliances, when that could be done, by judicious extraction. They endeavored to hold broad views, however, and occasionally, in suitable cases, would use fixed appliances.

With regard to making orthodontics a specialty, he confessed he doubted whether such a step would be wise. As had been said at the last meeting, specialists tended to hold narrow views, and a small band of enthusiastic men might arise whose sole aim would be perfect occlusion, regardless of anything else—regardless of facial contour, general health, and so on. That would do a great deal of harm.

Mr. Mayer said he had appreciated and enjoyed Mr. Cale Matthews' paper. Whatever other gentlemen might think of the author's methods of treatment, he personally must say that Mr. Matthews had satisfied him on every count.

Mr. Pitts thought Mr. Cale Matthews' paper rather lent itself to criticism, because the author, somewhat injudiciously, mixed up details of treatment of a contentious character with the broader question of the teaching of orthodontics. Many teachers held the view that orthodontic teaching should have its place in the curriculum of students, so that they might have some idea of the underlying principles and, what was equally important, some idea of how the various appliances should be used. Whatever views were held on the question of extraction, there were certain appliances which had to be used at some time or another. Mr. Matthews seemed to have solved the problem of orthodontic education for students at Birmingham, and on that he congratulated him heartily. It was a matter for congratulation, and a reproach to other schools, which he feared lagged behind. It was a difficult problem, because certain lines of teaching were laid down for the schools which had to be followed; the schools had to spend a certain number of hours teaching certain subjects and, when the students' time was so overloaded, it was difficult to find room for anything else. Mr. Matthews had shown that it was possible, however, given keenness and enthusiasm, and he seemed to have fired his students with his own keenness. The subject was of the utmost importance, and he hoped what Mr. Matthews had said would be widely read and pondered.

There were two small points in the paper on which he wished to comment. Several speakers had referred to the phrase which Mr. Cale Matthews used with regard to extraction. He was perfectly entitled to condemn the practice of extraction as pernicious and ignorant if he wished, but he (Mr. Pitts) wished to enter a mild protest against the employment of such terms. There were some who thought extraction was a legitimate part of orthodontics, and they were entitled to their view.

In the excellent syllabus of lectures which the author had given he would like to suggest the addition of a subsection on the influence of heredity on irregularities. That was an important subject, because the question might easily arise whether in those cases it was worth while, or wise, to interfere with a condition that was so intimate a part of the possessor's personality.

Mr. J. B. Bull said the method adopted by Mr. Cale Matthews for teaching students was in many respects similar to that in vogue at Guy's at the present time. He gathered, however, that Mr. Matthews spread his teaching over three or four years of the students' course. Personally he preferred the method recently adopted at his own hospital, by which the student was given three months intensive training in orthodontics toward the end of his fourth year. That entailed the disadvantage that a man was not able to follow his cases from start to finish, but he did see and treat cases in every stage of development during that time, and in his fourth year a student was in a much better position to benefit by practice and teaching than at an earlier stage. He thought it was imperative that, before starting the study of orthodontics, the student should be thoroughly acquainted with, and have had as much experience as possible in, the other branches of dental surgery, and *that* knowledge and experience was not acquired until about the middle of his fourth year. The time available being so short, it followed that as much time as possible should be spent with the patients, and not away from them, and therefore all apparatus of a movable type should be constructed not by the student himself, but by first and second year students. In that way the dresser employed on orthodontic work would gain his experience in the construction of apparatus during his first two years, and would be able to devote more time to the other branches of the subject during the latter part of his course.

He did not want to enter into a discussion on treatment by extraction, but thought that whatever views one held on the subject, it should be agreed that the "judicious extraction" method should be taught. As long as the world lasted treatment by extraction would be practised, and unless the students were instructed on that subject, when they came to practice they would be unable to discriminate between extraction which might be termed necessary and that which was unnecessary. They all wished to aim at the ideal, but in so very many cases had to come down to the practical!

The author had inquired why there were not fifty or more orthodontists practising in London at the present time. If by "specialists" Mr. Matthews meant men who confined themselves exclusively to the practice of orthodontics, he thought if there were anything like

the number suggested a great many of them would be joining the unemployed processions which were becoming such a familiar feature everywhere!

The Secretary read the following from Mr. Sheldon Friel, of Dublin, who was unable to attend the meeting:

"I am very sorry that it is impossible for me to hear Mr. Cale Matthews' paper on Orthodontic Education, and I hope he will understand that any criticism I offer on his paper is meant to be constructive, and not destructive criticism. Mr. Matthews' statements as to the apathy of the dental profession towards orthodontics are only too true. This was also emphasised by Mr. McKeag at the last meeting. It seems to me that this attitude must continue, owing to the huge field necessarily covered in the dental curriculum. The subject of dentistry exclusive of orthodontics, is so vast that few men can possibly obtain a full knowledge of all its branches, and this takes no account of the research work that is crying out to be done in order to prevent dental diseases. If, in addition, it is expected that the average dentist should be an orthodontist, it means that general dentistry will be sacrificed to orthodontics, or vice versa.

"I do not think that orthodontics should be left out of the curriculum of the dental student, but rather the curriculum should be radically altered. I feel that the student should be taught the principles on which orthodontics are based, and that actual treatment should occupy a very secondary place. Mr. Matthews rightly says that a printed syllabus of lectures conveys very little, but nevertheless I think it shows the general trend of the lectures. The following syllabus, which is almost identical with that of Mr. McKeag's in Queen's University, Belfast, is divided into twelve lectures, only three of which are devoted to treatment:

SYLLABUS

Definition of Orthodontics.

Occlusion
- Hypothetical occlusion.
- Typical occlusion.
- Individual occlusion.

Mechanical forces controlling occlusion.

Malocclusion
- The distinction between malocclusion and individual occlusion.
- Classification of malocclusion (i) Angles, (ii) B. S. S. O.

Etiology and Prevention of Malocclusion
- Local causes.
- General causes
  - Constitutional diseases.
  - Diet
    - Food that requires no chewing.
    - Deficiency of vitamines.
    - Deficiency of the essentials of foods.

Diagnosis of malocclusion.

Tissue changes incident and subsequent to tooth movement.

Treatment:—

(i) Removal of cause alone.

(ii) Removal of cause and exercises, etc., for the development of the forces of occlusion.

(iii) Removal of cause and mechanical correction of the teeth.

(iv) Extraction of teeth with or without further mechanical correction.

Prophylaxis during treatment.

Demonstrations:

(i) Impression and model technic.

(ii) The construction of appliances
- Fixed.
- Removable.

"I think that the object in view in teaching students should be to make them capable of recognizing malocclusion in its incipient stages, and that they should be capable of undertaking preventive measures, as, for example, in the prevention of mouth-breathing, improper feeding, habits, premature extraction of deciduous teeth, and finally that they should have a base-work on which they could build, if they intend at a later date to take up treatment. The way to meet the public demand for the treatment of malocclusion would be to found

a postgraduate school for orthodontic specialists. Mr. Matthews says: 'The difficulty of obtaining teachers must for some time be considerable—no one should be allowed to take full responsibility in this work whose only credentials are theoretical—a wide experience of actual practice should be a *sine qua non.*' Would it not be possible, in addition to certain teachers in this country who have a sound theoretical knowledge, to bring over an American orthodontist, who unites theoretical knowledge with a technic of very high standard. Such a school, with a course extending over eight or nine weeks, would turn out a number of orthodontists to carry out the teaching in future schools.

"I presume that Mr. Matthews did not include Ireland when he said that there were no specialists in the 40,000,000 population, as there are two in Ireland. I think the Society is greatly indebted to Mr. Cale Matthews for his paper on this all important subject."

Mr. Cale Matthews, in replying to the discussion, said that, while it might sound curiously contradictory, he felt very happy in having aroused a certain amount of antagonism. He thought anyone who initiated a discussion on a subject similar to the one which he had raised was bound to meet with antagonism, but that antagonism was healthy and beneficial in its effect.

He was sure none of those present would wish to convict him of disloyalty to his profession or to the staff of any other school, or of accusing anyone of dereliction of duty in teaching or work. Orthodontia today was largely a matter of opinion, backed up by certain facts derived from work already accomplished. He regarded the criticism his paper had met with that evening as a great compliment; he had a very sincere objection to anything in the nature of a Mutual Admiration Society; and when a man like Dr. Sim Wallace took the trouble to speak and criticize his work he thought it was a very great compliment. He did not think, however, that Dr. Sim Wallace realized that his criticism was one of the greatest compliments, in a backward way, that he could have given the paper. If he understood aright, Dr. Sim Wallace's life work was to prove the great value of function, and one of the most important things a student could be taught was to establish function. Mr. Steadman had pulled his remarks to pieces, and he was quite justified in doing so, because he had to admit that the paper had the unfortunate aspect of appearing to criticize other schools. To come down to actual facts, however, what had been the results of the teaching of orthodontia in the schools for the past ten or twenty years? Those of the members who had been qualified for some time would know how little of value the final examinations for any of the diplomas had been with regard to orthodontics. It was not the syllabus drafted by the staff, but the individual interpretation of that and the actual work in the schools which counted. Anything might be put down on paper, but if the students did not do the work they would reap small benefit from that. He knew that all the schools had a syllabus, and all—on paper—worked on more or less similar lines, and everyone hoped that in time a definite teaching system would be established such as existed in other branches of dental work. An analogy might be found in the controversy that was exercising the dental profession throughout the world at the present time, with regard to sepsis and the treatment of root fillings. No controversy in orthodontia was so acute as that. He hoped the members would absolve him from any intention of criticizing individuals when he criticized the work of the schools. A question had been asked with reference to his use of the term "mutilation," but he understood that was a recognized term in orthodontia for cases in which teeth had been lost before treatment was started. He had been very interested in what Mr. Bull had said as to the method of teaching at Guy's, and would be glad of an opportunity of discussing it with him, but he was inclined to think that three months was a very short time for a student to pick up any practical ideas of orthodontic work.

He wished to emphasise what was really one of the main points of his paper, but which seemed to have been overlooked, namely, that in the restoration of function one must have due regard to facial contour. The unfortunate case Dr. Sim Wallace had referred to might have been treated by Angle's methods, but he did not think that Angle would have obtained the result described. He had never had the privilege of seeing any patients who had been treated by Angle, but disfigurement was against all the ideals of orthodontic treatment, which were to beautify and restore perfect function.

He greatly appreciated the President's remarks. As he had already mentioned, his

only desire in reading the paper was to arouse interest in what, to his mind, was a very absorbing subject, and to see whether it would not be possible to equip young practitioners with some real knowledge of what was meant by orthodontia.

With regard to the "pernicious system of extraction," such a term did not apply to an audience such as the one he was addressing, but it must be remembered that the great bulk of the profession was practising in the country, rarely attended meetings or discussions or met their fellows, and in consequence were extracting teeth in an indiscriminate, injudicious and pernicious manner.

He must repeat that the whole question rested on a study of beauty. Anyone who walked along the streets noticing the passers-by must realize that the main cause of ill-looks was the lack of development of the mandible and ill-proportion of the mouth. As soon as proper function was restored the whole of the troubles treated by orthodontia would be improved, as would also the general health of the patient.

In conclusion he thanked the members for their criticism and those who had appreciated the few remarks for what they had said, and begged those who occupied teaching positions not to take any of his observations as being personal.

CASE OF LIP-SUCKING COMPLICATED BY RICKETS*

By B. Maxwell Stephens, L.D.S.

I WAS afforded the opportunity of inspecting this case at intervals by the practitioner who treated it. He has kindly sent me models which he recently secured. A comparison of these (Figs. 8, 9, 10, 11) with the first (Figs. 1, 2, 3, 4) shows a good result, and as I think there is something to be learned from it, I have brought the case forward as a casual communication.

Rough notes from the history read as follows: Boy aged eight and a half years; has always lived in the country; mentally, lacks power of concentration; physically, well developed but stoops.

His lower lip is drawn in behind his maxillary incisor teeth, where he always seems to be sucking at it; these teeth are fairly prominent.

The mental prominence is flattened, and though the mandible is actually only slightly retruded, the profile of the face has a semblance to that of one with a chop-chin.

There is no history of similar dental malformation among his family, though in passing, and it is of interest, there is one of hyper-secretion of the thyroid gland.

Inquiry as to conditions in infancy showed that he was bottle-fed, rickety, cut his teeth late, only commenced to walk at three years of age. At five and a half years adenoids were removed; following this operation he has always breathed normally.

You will see from inspection of the models, that the teeth are large, and that the mandibular incisors have been shot up irregularly (Fig. 2), into the maxillary arch (Fig. 1), the buccal surfaces of the centrals being, if one may misuse the term, in lingual occlusion with the palate. There is some narrowing both of the maxillary and mandibular arches in the molar and premolar region, with marked lingual tilting of the first mandibular molars. The correction of this tilting would considerably shorten the length of the overbite. Obviously these arches lacked growth in the early stages of dentition.

The central incisors erupted, but lateral pressure created by the development of the laterals and canines and the actual eruption of the former, forced them upward until they impinged upon the soft tissues of the palatal margin.

The child experiencing discomfort, interposed the lower lip as a shield, thereby causing the centrals to be thrust further inwards; these caught into the vault of the palate (Fig. 1), the malformation was completed.

Treatment consisted in capping the deciduous mandibular molars, thus lifting the bite from the permanent molars which were then thrust outward by finger springs; this increased their height in the arch. By finger springs also the

*Read before British Society for the Study of Orthodontics, Feb. 9, 1921.

mandibular incisors were gradually pushed forward, and at the same time an upper biting plate was inserted to assist in depressing them. Later, both arches were expanded.

The last models were taken when the boy was twelve; the operation

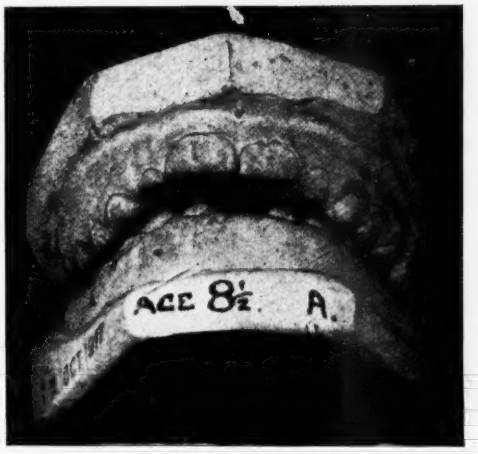

Fig. 1.—Frontal view. Model tilted showing lower central incisors caught within palatal vault.

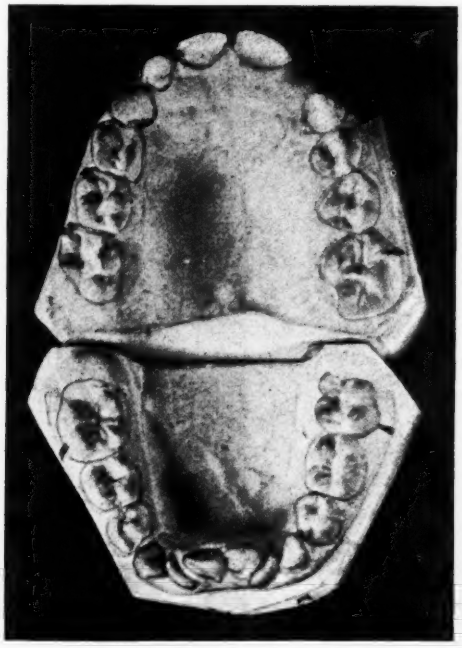

Fig. 2.—Occlusal view showing bunching of lower incisors.

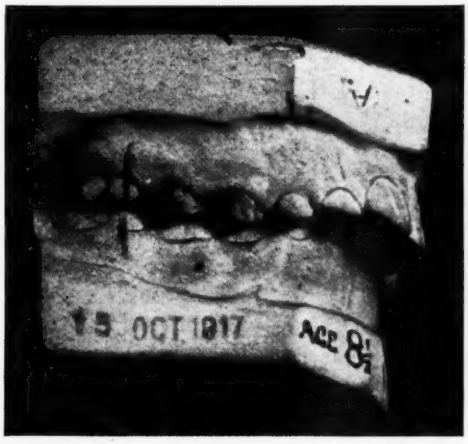

Fig. 3.—Right lateral view. Permanent lower molar in distoclusion.

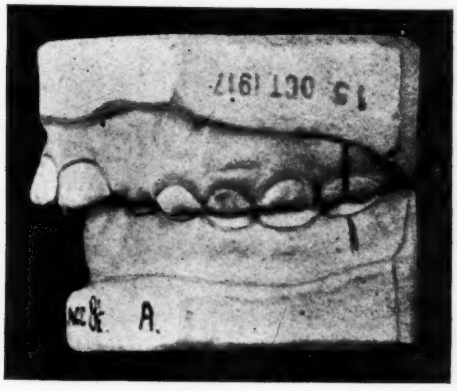

Fig. 4.—Left lateral view. Permanent lower molar in distoclusion.

from various circumstances spread itself over three years, but opportunity was unfortunately lacking to complete the expansion of the arch in the molar region.

I wish, in concluding, to make two points:

1. That where there is lack of development, the deciduous arch should

be spread early enough to ensure sufficient space for the incisors and canines to develop and erupt freely, preferably about six years.

2. That though, at first sight, the prognosis of this type of case would appear to be unsatisfactory, with tenacity on the part of the operator, a simple line of treatment brings about a normal resolution of the malformation; but the etiology must be carefully studied.

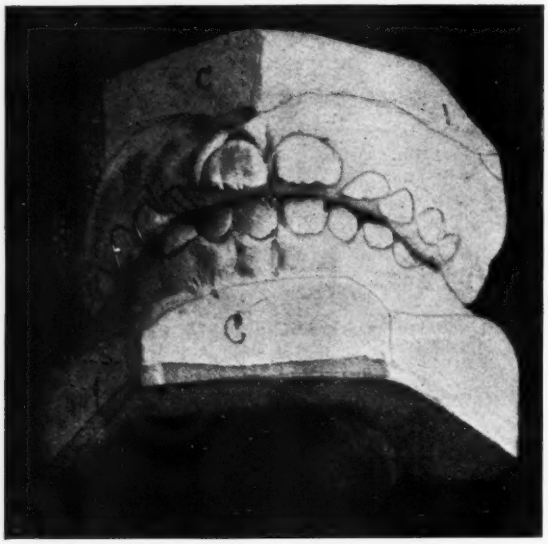

Fig. 5.—Frontal view showing movement forward of lower incisors. Intermediate case.

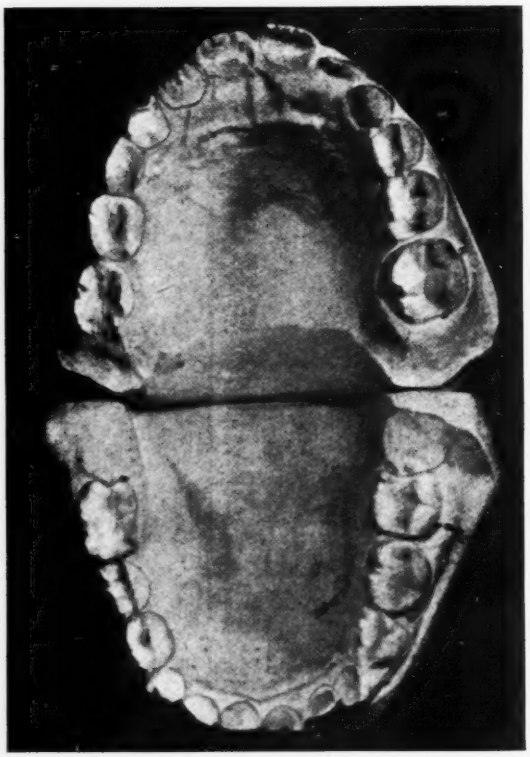

Fig. 6.—Occlusal view.

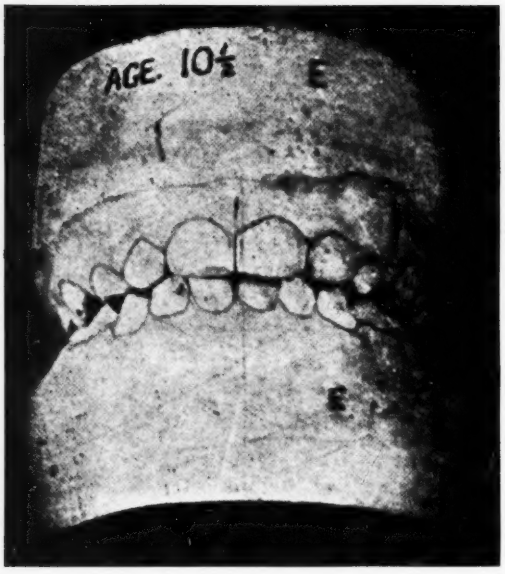

Fig. 7.—Frontal view. Final stage.

The second case I wish to show is one of unilateral distoclusion with marked overbite. This child, a girl aged four and a half years, took one and a quarter hours to eat her mid-day meal of meat, vegetables, and some form of cereal pudding. Though there was little decay visible, it luckily suggested itself to the nurse that something else might be wrong with the teeth, and

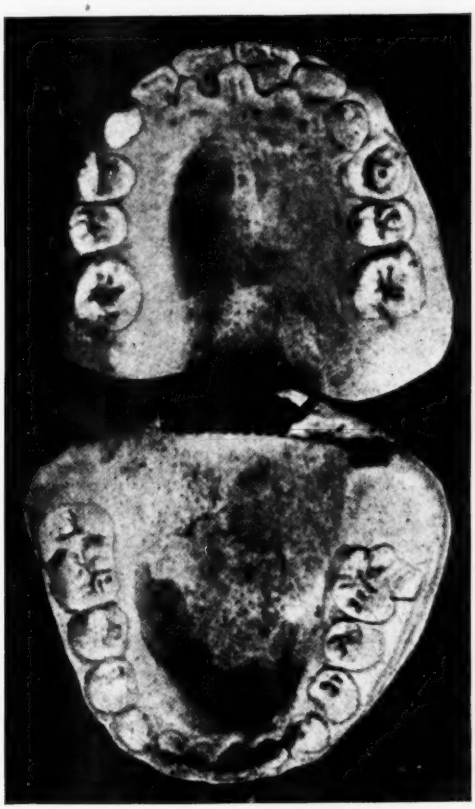

Fig. 8.—Occlusal view. Final stage.

Fig. 9.—Right lateral view. Intermediate stage, showing forward movement of mandible.

she was brought to me. I took impressions and when these had been cast, an examination of the lingual aspect of the occlusion showed only a minimum surface of the molar teeth in opposition, and that the mandibular incisors impinged upon the opposing palatal surface. (Figs. 12, 13, 14, 15.)

The time tonight is too short to go into the etiology of this malocclusion,

which would otherwise prove of interest. I will therefore pass on to a short survey of the child's general condition.

As she sat in my chair she was lethargic and obviously lacked energy: it seemed to me that a vicious circle, initiated from want of masticatory

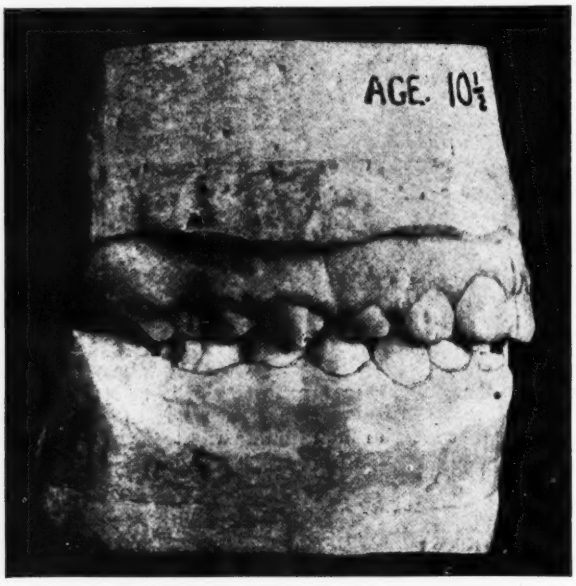

Fig. 10.—Right lateral view. Final stage.

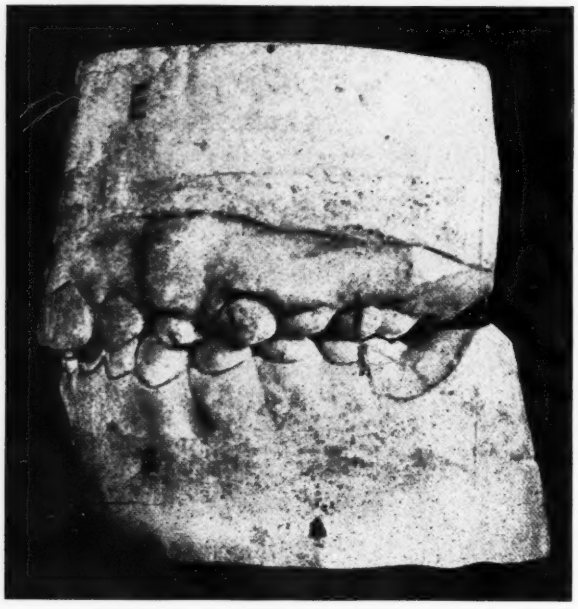

Fig. 11.—Left lateral view. Final stage.

power, had probably been set up embracing the digestive tract: food insufficiently prepared for further digestion had been passing into the stomach. I found she had become habitually constipated. She was thus constantly reabsorbing products from the material which should have been evacuated.

By way of treatment I inserted a biting plate (raising the bite in the incisor region) with a small-sized Badcock's screw to accomplish expansion. As soon as she had become used to the presence of the plate, I severed it in the usual manner and began spreading the arch.

After a couple of weeks she commenced to masticate her food quite comfortably on the plate; her general tone improved, the mentality was quicker

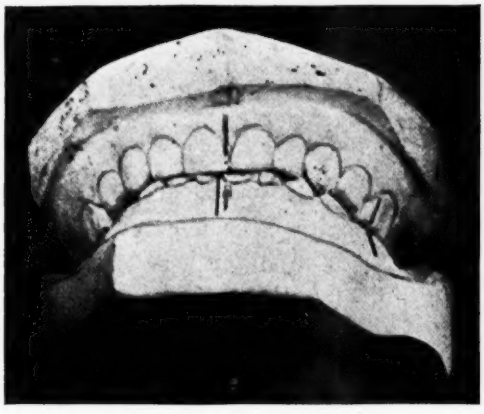

Fig. 12.—Showing depth of overbite. Observe misplacement to right of center in mandibular arch.

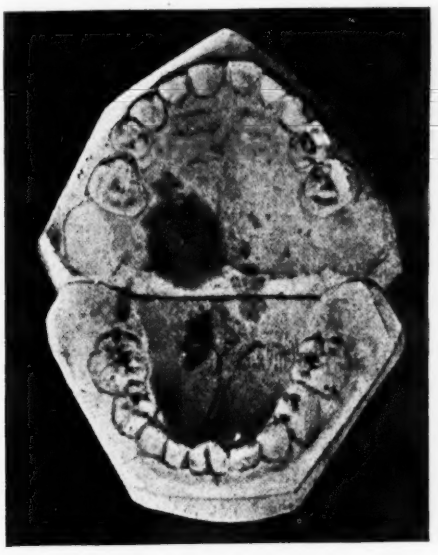

Fig. 13.—Occlusal view, showing partial rotation of lower central incisor.

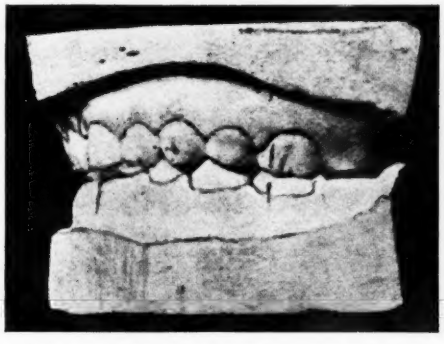

Fig. 14.—Left lateral view showing occlusion of second molars practically normal.

Fig. 15.—Right lateral showing distal occlusion of second molars.

and she was full of movement. Seeing her after an interval of two months, I scarcely recognized the individual.

At the end of five months, I started expansion by a plate in the mandibular arch, so as to restore support to the bite in the molar region. At this stage I usually substitute a biting plate without the expansion screw, as this overcomes the difficulty which occurs when the child is eating.

I am led to make the following remarks, the first of which is practically

a reiteration of the conclusion in the previous case—namely, that if the arches were not being spread early there would be insufficient room for the lower incisors to erupt, and this case would otherwise pass on and enter the same category as the preceding one.

The second is, that it is no exception of course to meet with this type of case in practice, but that when I observe there is much overbite, not having already done so, I examine the child's whole being critically. I ask whoever is with them, among other questions, if the meals are eaten slowly and whether meat causes a difficulty in mastication. If the answer is in the affirmative I secure impressions, and with very young patients this demands both strategy and patience.

The advisability of treatment can then be considered and the condition explained. It is essential that we should bring to the notice of the medical attendant and the parents the evil effect of leaving these youngsters to struggle on with a dentition with which they cannot masticate. Treatment should never voluntarily be delayed.

It should be borne in mind that at this stage simple forms of appliance to a large extent correct the tendencies to malocclusion; such appliances are readily worn and their presence in the mouth is, as a rule, not resented to the same extent as later on; also visits can be obtained without interfering with the schooling.

It remains to add that we should use every opportunity of educating ourselves sufficiently by study and observation of the normal, to be able to detect at once the earliest signs of the abnormal.

ABSTRACT OF CURRENT LITERATURE

Covering Such Subjects as

ORTHODONTIA — ORAL SURGERY — SURGICAL ORTHODONTIA — DENTAL RADIOGRAPHY

It is the purpose of this JOURNAL to review so far as possible the most important literature as it appears in English and Foreign periodicals and to present it in abstract form. Authors are requested to send abstracts or reprints of their papers to the publishers.

Shall Pulpless Teeth Be Retained in the Mouth? M. E. Peters. Dental Cosmos, 1921, lxiii, No. 1, p. 1.

No inflexible rule can be laid down for the retention or extraction of all pulpless teeth, but the decision must be guided by the physical condition of the patient, the condition of the apical and periapical tissues, and the skill of the operator. Although extraction and root-canal treatments may remove infection, the prevention of even small cavities and the maintenance of the gums in a healthy condition must be the aim and object of progressive dentistry. The extraction of a tooth, breaking the arch, produces a condition inviting infection about other teeth due to the establishment of faulty contacts. No artificial device has yet been worked out to replace missing teeth, which is not an irritant to dental or peridental tissue. Physicians and roentgenologists should abandon their present practice of diagnosing oral conditions from radiograms alone and advising the extraction of teeth without consultation with the dentist. The latter should report oral foci of possible systemic infection to the patient and the physician. An effort should be made to eradicate all such foci. Extraction and curettage is the quickest and probably the most certain method of eradicating apical abscesses. A very large percentage of apical radiolucent areas disappear following careful root treatment. Physical symptoms seem to disappear following careful treatment of septic teeth. Before resorting to extraction, attempts should always be made to cure and preserve teeth which are infected. Many physicians have found it much easier to discover a few shadows on dental films than to make a thorough physical examination, and the dentist has found it easier and more profitable to have a tooth extracted and bridge the space than to spend the necessary time in doing a thorough root-canal treatment. It is impossible for either the physician or the roentgenologist to interpret conditions accurately from radiograms alone. But radiograms of all pulpless teeth in the mouths of the dentist's patients should be made at least once each year and the condition be compared with that existing before. Further treatment must be governed by individual requirements.

Dental Anomalies. P. Kranz. Correspondenz-Blatt für Zahnärzte, 1920, No. 4, p. 18.

The author essentially restricts himself to a discussion of hypoplasias, more particularly of so-called leutic teeth. His clinical findings show that all dental anomalies occur with no greater frequency in luetic patients than in persons free from lues, but that the same anomalies are much more common and extensive in cretins without syphilis. The percentage of luetic patients with normal teeth amounted to 41.66; but there were no cretins free from syphilis with normal teeth. Numerous other common findings are suggestive of internal secretory disturbances as the universal cause. It is not yet possible to decide if the thymus, thyroid, or parathyroids, or rather the hypophysis or the gonads enter into etiologic consideration in these cases. Dental hypoplasia must be interpreted as the result of a disturbance of general character at the time of calcification of the teeth, and in all probability, disturbances of the endocrinic glands act as the etiologic factor in this disturbance of the calcium metabolism. The individual forms of hypoplasia, in syphilitic patients as well as in those free from syphilis, and in cretins, present in no way special different characteristics pointing to a specific virus. Negative spirochete findings in all examined congenital luetic tooth germs; normal dental findings in all those cases where normal thyroid parathyroid, and thymus glands could be demonstrated in cases of congenital lues; invariably abnormal pictures of tooth germs in the cases which presented well-marked degenerations of thymus or thyroid; and especially the abnormal calcification, as found by the author, again confirm his suspicion that these changes in the tooth germ are produced by no means through the syphilitic virus as such, and especially not by the spirochetes in loco, but that dysfunctions of the internal glandular apparatus must be held responsible for the production of the dental hypoplasia. The disturbed metabolism of several, if not all, of the endocrinic glands is undoubtedly of extraordinary importance for the development of the teeth.

Bucco-dental Foci of Infection and Their Relations with the Organism. T. B. Patrone. La Odontologia, 1920, xxix, No. 9, p. 390.

The study of the remote influence which local infectious foci of the mouth and teeth, such as abscesses, pyorrhea, etc., may exert in the organism has led to much bacteriologic investigation and clinical observation, without the accomplishment of definite conclusions. Cases are often seen in which individuals with a very bad condition of the teeth and the resulting buccal affections nevertheless enjoy excellent general health and never complain of pain or other disturbances not connected with the teeth. On the other hand, individuals possessing teeth in a splendid state of natural and hygienic preservation, who have never had to seek odontologic assistance, have been known to present general or local diseases such as are usually attributed to bucco-dental factors, on more or less insufficient grounds. The reason is that all diseases require a favorable territory for their development, and in its absence, the infections are checked by the barriers of natural defence opposed by the

intact organism. The author is convinced that the infectious foci of the mouth may act in the organism as the direct cause of various affections, or aggravate diseases produced by other causes; but he is equally certain that this causative relation is not always admissible. This opinion is confirmed by practical experience during many years in his clinic, and also by the findings of other observers. Dr. Etchepareborda, writing in the Odontologia Argentina, 1920, reports an instructive case showing the influence of bucco-dental affections on the general condition of the system in an unmistakable manner. The patient, a woman 45 years of age, of good constitution, with an excellent record, was fitted with partial bridges in the upper dental tier of the left side, and two crowns on the right side. Sometime afterwards, she noticed the first symptoms of disease, in the form of loss of strength, great restlessness, without demonstrable cause; slight fever; transitory edema of the face and neck on the left side; and manifestations of great weakness. These pathologic phenomena increased progressively, and the edema frequently recurred, simulating the presence of Bright's disease. Radiographic findings were completely negative, but the bridge work was removed, with the result that immediate improvement followed. This case convincingly shows the relation from cause to effect of the teeth to the general condition and the possible action of dental foci through toxins, before radiography reveals dental lesions in the periosteum or in the osseous tissue. However, the action of bucco-dental infectious foci is by no means necessarily serious or inevitable, and the author recommends a calm, conservative attitude in all cases, before proceeding to the performance of odontologic operations in doubtful or obscure cases. After consultation with the patient's medical advisor, and only when both opinions are agreed, the extractions may be made which appear to be indispensable on the basis of the existing symptoms. The physician in his turn should always consult with the odontologist in a pathologic case where the bucco-dental conditions may be suspected as an aggravating cause and where its improvement may act favorably upon the patient's restoration to health.

Stereoroentgenography in Dental Radiology. C. A. Lemaster. Hettinger's Dental News, 1921, iv, No. 1, p. 3.

In this brief contribution, the author aims at illustrating and emphasizing the benefits which may be obtained from a judicious use of the principle of perspective in dental radiography. Flap pictures are usually unreliable in three groups of examination: Localization of foreign bodies, orthodontia, and exodontia. Definite localization of periapical destruction may also be included, which is brought out by stereoroentgenography. With special reference to orthodontia, the following is a typical example: In case of an unerupted upper central incisor, a flat picture seemed to show a malformed tooth, rotated sharply in the middle in such a manner that both the occlusal surface as well as the apex lie directly upward. Stereoroentgenography proved the tooth to lie practically at right angle to the plane of the others and to be a normally formed tooth; the apex appeared labially and slightly pushed downward; the

shadow of the root which was thought to be part of the tooth itself was the remaining and partially absorbed root of the deciduous tooth. Its position with reference to the surrounding teeth and structures was plainly and accurately indicated. In another case, concerning a child of nine years, the so-called flat picture (radiogram) of all anterior upper teeth showed all deciduous teeth still in place, with the erupting permanent teeth beneath, the permanent teeth appearing to be in perfect positions for normal eruption. But the stereoroentgenogram showed the proper relation of the permanent teeth as they really were, in the process, centrals and laterals were out of line of eruption, being misplaced considerably labially. A radiogram of this kind gives the exact relation of the long axis of the permanent unerupted teeth to the long axis of the deciduous teeth, a very valuable diagnostic point. Stereoroentgenography is of unquestionable value whenever the peculiarities of the case demand accurate differentiation between the various planes in which the structures to be studied come to lie. Perspective lends additional value to the radiogram.

Etiology and Treatment of Ulceromembranous Stomatitis. Bercher. Revue de stomatologie, February, 1921, xxiii, 2.

The author, who is stomatologist to the great Val de Grace Military Hospital, takes issue with certain recently published statements concerning Vincents' disease as it affects the gums. Admitting the role of the Vincent spirochete-fusiform symbiosis in the production of this malady, the predisposition is nevertheless all important. These according to the author comprise general disturbances, the eruption of the third molars and certain results of reflex alveolar-gingival irritation. The first two are generally admitted as factors, while the third, which originated with the author has not yet been conceded. The point is of capital importance because in such cases the author claims that the salvarsans are inert. In a case cited by the author treatment of every kind failed, even extraction of the upper wisdom tooth of the affected side. Intravenous salvarsan brought no improvement. The wisdom tooth of the mandible on that side was then extracted and the condition after four months of activity ceased spontaneously. In the author's opinion the last-named tooth exerted a reflex trophic influence on the gums which lowered the resistance to Vincent's microorganisms. The reason for the behavior of this tooth was not anomalous eruption but an arthritis resulting from malocclusion, the latter in turn being due to loss of the other molars in the series. In a second case extraction of the third molar did not give relief as was expected but later it was learned that the dentist had left a broken root in the alveolus. After this had been extracted the stomatitis healed of itself.

Local Anesthesia of the Mouth and Teeth. Mayoral and Landete Arago (Madrid). La Odontologia, January, 1921, xxx, 1.

The authors discuss four methods of injection—intrapulpar, intraarticular, subgingival and intraosseous. The first-named is used in connection with devitalization and the author passes over this subject to mention the intra-

articular form which is indicated in pulpectomies and extractions, especially of mandibular teeth, but apparently only when subgingival anesthesia is insufficient. The latter is the method of choice for most dental work in which the gums and pulp filaments must be anesthetized. As a rule anesthesia of the vestibular aspect suffices in the upper jaw while it is well to avoid anesthetizing the palatine side because of the nausea which sometimes results. Only in certain cases of calcareous or necrotic degeneration of the pulp is it necessary to anesthetize the palatine aspect first. Intraosseous anesthesia is used in cases of complicating infection which is localized, and is mentioned only in connection with mandibular anesthesia. Space does not suffice for a digest of the author's technic. Of the four methods the subgingival is far less burdensome both for dentist and patient and the others are all reserved for exceptional cases. As a rule this use is not made until the ordinary subgingival method has failed. The author confines himself to one anesthetic without regard to the method used—this is the ordinary 2 per cent novocain solution. In many cases however a 1 per cent solution will suffice. The usual 0.004 per cent of adrenaline is added to these solutions and all manipulations in making up these solutions are effected in an atmosphere free from oxygen, the author using one of carbon dioxide.

Importance of Oral Hygiene During Childhood. H. B. Butler (Washington). American Journal of Public Health, April, 1921, xi, 4.

Study of many skulls of children from 200 to 300 years old of native North Americans preserved in the National Museum showed but a solitary carious tooth. In contrast with this showing the author cites the fact that over 7000 children in West Virginia presented over 16000 unfilled cavities, or over 2 per child. In a large number the lower jaw was undeveloped. The prospect is that in a few generations the civilized white will be edentulous. Underweight children seem to suffer especially from caries, malocclusion and pathological gums. Next to defects of vision, defective teeth was the most common cause for rejection in the late draft. National and State programs for the conservation of the teeth are under way or soon will be in England, New Zealand, New York, Tennessee and West Virginia. There are also similar movements in some cities and in Bridgeport it is estimated that the amount of caries has been reduced 50 per cent, with the prospect that the percentage will reach 70 or 80. But this concerted attempt to secure mouth hygiene has an even greater function for it has been shown in Bridgeport that the incidence of contagious diseases of childhood has been greatly reduced, showing that a dirty mouth favors the breeding of ordinary disease germs. The author mentions the claims of Cotton of Trenton that in the State Insane Asylum many cases of insanity have been benefited by abolishing infected tonsils, tooth roots and similar structures which harbor germs.

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EDITORIALS

Extraction versus Expansion

A PAPER by G. F. C. Matthews, L.D.S., read before the British Society for the Study of Orthodontics, is published in this issue of the International Journal of Orthodontia and Oral Surgery, under the title of "Practical Results in the Treatment of Malocclusion." Mr. Matthews mentions the desirability of correcting deformities by expansion of the dental arches, and he also took a decided stand against the "perniciously ignorant practice of extraction." We are in accord with Mr. Matthews' ideas, as advocated in this paper, but which methods seem to have aroused considerable criticism from Doctor Sim Wallace. We are at a loss to understand some of the statements and interpretations made by Doctor Wallace. From his discussion of Mr. Matthews' paper, we would surmise that Doctor Wallace is not aware of the possibilities of expanding the dental arch, particularly in the lateral direction. He makes the statement in his discussion that "expansion was always forward, one cannot get so much room by doing it breadthways." From that interpretation

of expansion, we are forced to believe that Doctor Sim Wallace has been unfortunate in examining cases of malocclusion in which attempts were made to expand, with the result that lateral expansion was not obtained, and the teeth were only moved forward.

Dr. Wallace also states that instead of expanding the dental arch, extraction must be resorted to in many cases in order to obtain room for the teeth. We are aware that the case cited by him, in which the incisors were carried forward, producing a long narrow arch was beyond doubt, an error of treatment such as we have seen in this country but one which cannot be taken as an example of the type of expansion as advocated by Mr. Matthews, and widely practiced by many other men.

We are willing to agree to Doctor Wallace's statement that extraction is necessary in some cases, and may be an advantage towards securing an efficient result in a short period of time. But that type of cases does not include those malocclusions in which expansion is the particular thing required. Even the most enthusiastic advocates of extraction would not advocate extraction of teeth as a means of making room in the dental arch in those cases of malocclusion requiring lateral expansion, and furthermore, we would state that the amount of lateral expansion that can be obtained is only limited by the technical ability of a man doing the work. Therefore, extraction as a substitute for expansion is a thing never to be considered.

Orthodontic Directory of America*

SEVERAL attempts have been made to compile a list of orthodontists. Some have been made by individuals for their own personal use, while others have been made by dental supply houses interested in orthodontic appliances. However, some of the information desired by the average man was not available, and the Orthodontic Directory of America fills a long-felt need. We believe this is the first attempt to make a directory of a group of specialists in dentistry.

Besides listing the names under the different states, an endeavor has been made to give information relative to the exclusive practice of orthodontia, time of receiving dental degree, and the school from which postgraduate instruction was obtained. An effort was also made to designate those who were members of the American Society of Orthodontists.

The editor of the directory tried to have every person whose name he obtained from various lists in his possession supply personal information, but the effort was only partially successful. This accounts for the fact that no information appears after some names, also for the errors in some of the street addresses. There are a few mistakes in proofreading, which can be corrected in the second edition.

As a whole the directory is very valuable and is practically indispensable to any one interested in orthodontia.

**Orthodontic Directory of America.* Edited and published by Dr. William C. Fisher, 501 Fifth Ave., New York City.

ORTHODONTIC NEWS AND NOTES

The editors desire to make this department a permanent feature of the Journal, but in order to do so must have the full support of the orthodontic profession throughout the country. We would deem it a great favor if our subscribers and readers would send in such announcements as might be of interest to the profession.

British Society for the Study of Orthodontics

A meeting of the British Society for the Study of Orthodontics was held at 11, Chandos Street, Cavendish Square, W., on Wednesday, February 9th, 1921, Mr. J. Lewin Payne, President, in the chair.

The minutes of the previous meeting were read and confirmed.

The following newly-elected members, who were present for the first time, signed the Obligation Book: Messrs. J. K. Grayson and L. J. Byron.

Election of Candidates.—A ballot was taken, and Messrs. Eric N. Commander, L.D.S. (Glas.), of 11, Crosbie Road, Birmingham, and Wm. Jones, L.D.S. (Eng. and Edin.), of 2, Colosseum Terrace, N.W.1, were duly elected.

The following visitors were present: Messrs. Berry, du Toit, Ransford, Gardner, Commander, Wilshere and Parker.

Casual Communication.—Mr. Maxwell Stephens read a Casual Communication on a case of Lip-Sucking, which was illustrated by models, etc. (appears on p. 504).

The following paper was then read by Mr. Cale Matthews, *Thoughts on Orthodontic Teaching* (appears on p. 490).

The President said it only remained for him, in the name of all present, to thank Mr. Maxwell Stephens for his Casual Communication, Mr. Cale Matthews for his paper, and also all those gentlemen who had taken part in the discussion, and announced that the next meeting would be held on Wednesday, March 9th.

Notes of Interest

Dr. C. M. McCauley announces the removal of his office from Dallas, Texas, to 305 Chapman Building, Los Angeles, California.

Dr. A. Friedman announces the removal of his office from San Francisco, Calif., to 906 Story Building, Los Angeles, Calif.

Dr. R. M. Moore, of Cedar Rapids, Iowa, announces the removal of his office to 300 S. Linn St., Iowa City, Iowa.